



UNIVERSITY OF AGDER

## Master Thesis

ICTs and Development: Assessing Internet and Mobile Phone Use  
among the Urban Poor in Kawempe Division, Kampala District

By

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*This Master's Thesis is carried out as a part of the education at the University of Agder and is therefore approved as a part of this education. However, this does not imply that the University answers for the methods that are used or the conclusions that are drawn.*

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## **Abstract**

This study set out to understand and assess internet and mobile phone uses among the urban poor in Kawempe division in Kampala district, Uganda. As the internet and mobile phones are rapidly diffusing through communities with more people having access to them, it is important to understand what people are actually doing with their access. There has been so much optimism and scepticism among scholars around the potential of ICTs in facilitating both economic and social development. This study thus seeks to build on the knowledge of how ordinary internet and mobile phone usage may influence social and economic development. Having an understanding of internet and mobile phone usage is important to this study because it helps to give an insight into the potential economic and social development impacts of these two ICTs.

The study is carried out as a case study in the context of Kawempe and is conducted through a triangulation of qualitative methods. It is also examined through the Diffusion of Innovations Theory (DoI) and the Capability Approach. The Perceived Characteristics of Innovations (PCIs) in the DoI theory explained motivations behind internet and mobile phone adoption and access which also directly helped to understand usage patterns but six out of the eight PCIs showed significant influence. The CA then helped to understand the impact of these uses on both social and economic development through assessing capability enhancement through the various uses directed towards the two aspects of development.

Internet access was found to be so low due to high illiteracy and costs. There is negligible individual ownership of the internet and the majority of respondents use internet cafés. Internet use is mostly directed towards communication with family and friends with very low use in economic, health and education related issues. On the other hand, mobile phone access was found to be very high and with very high individual ownership of handsets. This is mainly attributed to the low cost and ease of use of the mobile phone. Mobile phone uses are also mostly directed towards communication with family and friends but there is a substantial integration of mobile phones in people's economic activities but with minimal use in education and health related issues.

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Finally, I would like to appreciate all the support of my classmates throughout my work. I am deeply grateful for your comments, critic, suggestions and contributions to my thesis. It has been delightful working and studying with you all and your support is greatly appreciated.

## Declaration

I hereby declare that this thesis:

***ICTs and Development: Assessing Internet and Mobile Phone Use among the Urban Poor in Kawempe Division, Kampala District***

Is my own original work and has not been submitted to any other universities than the University of Agder for any type of academic degree.

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Esther Namatovu

31<sup>st</sup>-May-2012

Date

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## Abbreviations and Acronyms

AEO	African Economic Outlook
AIDS	Acquired Immune Deficiency Syndrome
APC	Association for Progressive Communications
BCtA	Business Call to Action
CA	Capability Approach
CIA	Central Intelligence Agency
CDMA	Code Division Multiple Access
CSR	Centre for Strategy Research
DoI	Diffusion of Innovations
DPADM/ UNDESA	United Nations Department of Economic and Social Affairs Division of Public Administration and Development Management
DSL	Digital Subscriber Line
FGD	Focus Group Discussion
FY	Financial Year
GDP	Gross Domestic Product
GPRS	General Packet Radio Service
HIV	Human Immune Virus
HSSP	Health Sector Strategic Plan
ICT	Information and Communication Technologies
ICT4D	Information and Communication Technologies for Development
IT	Information Technology
ITU	International Telecommunications Union
LAC	Latin America and the Caribbean
LC	Local Council
LDC	Less Developed Country
MDGs	Millennium Development Goals
MMRT	Mambo Mpya Research Team
MoES	Ministry of Education and Sports
MoH	Ministry of Health
MoICT	Ministry of Information and Communication Technology
MTN	Mobile Telecom Networks
MPICT	Mid-Pacific ICT Center

NDP	National Development Plan
NGO	Non-Governmental Organization
NHP	National Health Plan
OECD	Organization for Economic Co-operation and Development
PC	Personal Computer
PCI	Perceived Characteristics of Innovations
Sida	Swedish International Development Cooperation
SIM	Subscriber Identity Module
SMS	Short-Message Service
SRA	Social Research Association
STDs	Sexually Transmitted Diseases
UBoS	Uganda Bureau of Statistics
UCC	Uganda Communication Commission
UiL	UNESCO Institute for Lifelong Learning
UN	United Nations
UNC	University of North Carolina
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UN Habitat	United Nations Human Settlements Programme
UPE	Universal Primary Education
UPTC	Uganda Posts and Telecommunications Corporation
USAID	United States Agency for International Development
USE	Universal Secondary Education
Ushs	Uganda Shillings
UTL	Uganda Telecommunication Company Ltd
WHO	World Health Organization
WIMAX	Worldwide Interoperability for Microwave Access
3G	Third Generation

# Chapter 1: Introduction and Background

This chapter presents an overview of internet and mobile phones in Uganda. It gives a brief background to the internet and mobile telephone evolution in Uganda, highlighting not only the country's ICT infrastructure but also the ICT policy. It also depicts the problem statement, research objective, research questions and finally gives an insight into the area of study.

## 1.1 Introduction

The world today is witnessing technological development at a remarkable speed and scale unprecedented in the history of humankind. Developing countries too, are enthusiastic about the prospects of adopting ICTs<sup>1</sup> to revolve their development wheels and have undertaken initiatives to build and fortify necessary ICT infrastructure (UN 2007: 1). Developed countries and civil societies that see potential for economic and social growth through ICT investments try to transfer them to developing countries in anticipation of aiding the latter's development. The international community has on numerous occasions rallied efforts to bridge the digital divide between the *haves* and *have-nots* in order to help maximise the impacts of ICTs on the Millennium Development Goals (Martin and Abbott 2011: 17). For instance, the World Bank, USAID, ITU, UNESCO, International Development Research Centre and other development agencies set out to help Africa tap into the potential of the internet revolution by establishing internet development projects in education and health programmes (Mwesige 2003: 90) among several others. Mobile phones are equally considered important for supporting economic and social development (Rashid and Elder 2009: 1).

While many developing countries are eager to join the digital era and invest in massive ICT infrastructure, it is crucial to understand their full and possible influence on development in general. Investment in ICTs is expensive and if there is limited proof of their influence on national and community development<sup>2</sup>, then the pursuit of over ambitious goals may mean misplacement of resources and worthwhile objectives missed. It was therefore the aim of this

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<sup>1</sup>ICTs can be defined as procedures and processes that support by the processing, storage and dissemination of information (Ssewanyana 2007: 10). The study limits itself to only two ICTs, that is; the internet and mobile phones.

<sup>2</sup>Development is limited to the two forms of social and economic development as described by the study.

study to go to the bottom of the pyramid and explore how the ‘end-user’ in particular the urban poor, use the internet and mobile phones. This helped to establish how these two forms of ICTs can impact on users’ social and economic development. The study discovered that ordinary mobile phone usage has been integrated in economic activities and although low, so has the internet. Both internet and mobile phone usage in Kawempe in social development aspects of health and education was found to be very low. This study is thus important to build and contribute to a body of knowledge and inform researchers about ICT use in particular internet and mobile phone usage in relation to its impact or potential influence on development since most studies, as has been identified by scholars, focus more on ICT development and increasing access while the impacts of ICT usage on development both social and economic still remain highly debatable and doubtful to some others. For instance, Rashid and Elder (2009: 2) argue that there is still limited evidence of mobile phone usage as a tool to solve development problems due to the difficulty in measuring their social and economic impacts. Lee (1999 in Mwesige 2003: 84) also argues that the empirical study of internet users remains underutilized as an area of academic research. Therefore an analysis of both internet and mobile phone use by the urban poor in this study will be important to determine areas where each of these ICTs can have the highest developmental impacts and identify areas where further research is needed.

Poverty is often measured in terms of incomes because a person’s income is a major determinant of their standard of living (Barber 2005: 1). In terms of income, the poor are defined as those that live on less than two dollars a day (Ncube et al 2011: 4). On a broader outlook, the UN defines poverty beyond economic terms and brings together the ‘capability approach’ and the ‘rights-based’ approach, defining poverty as;

*“A human condition characterized by the sustained or chronic deprivation of the resources, capabilities, choices, security and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political and social rights.”* (UN 2001 in Barber 2005: 1).

This definition is multidimensional and combines two important and related themes in the contemporary understanding of poverty. Many urban cities in developing countries are struggling to survive because they are home to extreme poverty, a phenomena that has become a trend with rapid urbanization. The focus in this study was on the poor living in the urban city of Kampala, Kawempe division. The UN and the World Resources Institute

projected that by 2015, in Africa, 225 cities will each have a population of more than one million (Hammond and Prahalad 2002: 5). Uganda mirrors this fast growing urban population as it is projected that in 2035, the country will have a population of 68.4 million people with 30% of them in urban areas (Akporji 2010: para 1). Kampala city alone already has a population of over 1.66 million people (UBoS 2010: xv). Uganda currently has many slums and everyday they are growing (UN Habitat 2009: 35). It is salient to understand whether the ICTs accessed by these people in informal settlements can have an influence on the social and economic challenges that are faced by the most unfortunate of these urban populations like the urban poor. Urban poverty encompasses a vast range of vulnerabilities that can impede the attainment of the Millennium Development Goals (MDGs) such as; poverty, inadequate access to clean and safe water, poor sanitation, poor shelter, unequal access to both education and health opportunities and also other basic infrastructure and services (Durand-Lasserve 2006: para 8; UN Habitat 2003: xxxi).

The research is intrigued by what the urban poor in Kawempe are doing with their access to the internet and mobile phones and whether or not their use of the internet and mobile phones, in one way or another can or contributes to their social and economic development. Literature in the study indicates some scholars with very optimistic views about the role of ICTs in social and economic development and this study is important because its findings will help to either affirm or repudiate these arguments in the context of Kawempe. The study will help to gain an insightful understanding into the daily uses of these ordinary ICTs, people have access to in their daily lives and elucidate whether that use can to some extent be developmental or not. It is from the findings into the detailed understanding of internet and mobile phone use among the ‘end-users’ at the bottom of the economic and social pyramid, that all ICT4D initiative promoters can base a decision on whether they can initiate programs with a knowledge of how they will be perceived, used and taken on. My aim therefore is that the study recommendations will serve as a fruitful direction for actors and stakeholders in development initiatives facilitated by ICTs.

The study followed qualitative methods that unlike quantitative methods enabled the researcher to have an in-depth exploration of how the ‘end-users’ make use of the internet and the mobile phone. This enabled a detailed analysis that facilitated the establishment of

whether the urban poor's internet and mobile phone use contributes to social and economic development.

The study is also structured under an integration of the *Diffusion of Innovations Theory* by Rogers and the *Capability Approach theory* by Amartya Sen. The two theories were identified to best respond to the research questions and the study also wanted to test the applicability of the identified important themes in both theories in the research context. The theoretical framework advanced by Rogers (2003), *Diffusion of Innovations theory*, was used to understand individual adoption and use of the internet and mobile phones. The *Capability Approach* as outlined by Sen is also used in the study to explain the impacts of these ICTs- internet and mobile phones towards users' social and economic development.

## **1.2. Background to Internet and Mobile Phones in Uganda**

All telecommunication services in Uganda were provided by the government owned Uganda Posts and Telecommunications Corporation (UPTC) until 1994 (Minges et al 2001: 4). Then, as part of the ICT policy reform process in 1996, the Uganda government liberalized the telecommunication sector and opened it up for competition by licensing multiple players (Ssewanyana 2007: 11; Econ One Research, Inc and ESG International 2002: 2). Following this policy reform, the Uganda parliament passed the communication Act in 1997 and the Uganda Communication Commission (UCC) was introduced in 1998 as the regulator of the communications industry in the country by the Uganda Communications Act (cap 106 laws of Uganda) (ITU News 2009). The Uganda Communications Commission privatised the communications industry and thereby allowing the emergence of both public and private players now active in the industry. There are several telephone networks, mobile radio communication, paging services, private radio and television stations, multi-purpose community tele-centres providing communication services of fax, telephone, e-mail and internet, media services, computer services among several.

To be specific to this study, there are various operational telecommunication companies in the country both public and private, offering both internet and telephone services in the country. These include, the Uganda Telecommunication Company Ltd (UTL), MTN Uganda, Airtel Uganda, Orange Telecom, i-Telecom, Smile Telecom, Warid Telecom among others. These serve approximately an excess of 10 million subscribers out of a population of an estimated 33 million in the country (ITU News 2009).

Kampala district-the capital city of Uganda, enjoys a higher access to telecommunications and internet services compared to rural areas (Ssewanyana 2007: 10). This is attributed to a better developed infrastructure, higher levels of education and skills than in rural areas. Over the years, the country has had a tremendous growth in its overall ICT infrastructure and it has a standing ICT policy to provide guidance on general ICT related interactions in businesses, government and the population.

### **1.2.1. Internet in Uganda**

Uganda was one of the first countries in sub-Saharan Africa to gain full internet connectivity. Being landlocked, the country depended only on satellites for its connectivity until 2009 when several international submarine fibre optic cables were brought to the East African coast. Uganda is now connected via a national fibre backbone (Budde 2012). Both fixed-line and operators such as UTL and MTN Uganda offer a range of internet services. There are also several internet service providers offering wireless broadband access (Internet World Stats 2011a). According to UBoS (2010: 56), by the end of 2009, there were over 358,228 mobile wireless subscriptions using a range of technology media like GPRS, CDMA and WIMAX. This spontaneous growth was facilitated by the heavy capital investment in high speed data networks by network operators. Wireless technologies such as WIMAX and 3G mobile services have brought the internet within the reach of a much wider part of the population than the limited fixed-line DSL services (Budde 2012). The introduction of GPRS will enable mobile operators to play a large role in internet service provision for the country (Internet World stats 2011).

According to the ITU, there were over 3,200,000 internet users as of June, 2010, that is; 9.6% of Uganda's population. This number of internet users has been steadily growing over the years (Internet World Stats 2011). For instance in 2011, the number of internet users grew to 4,178,085 people accounting for 12.1% of Uganda's population (Internet World Stats 2012).

**Table 1: Uganda Internet Usage and Population Statistics**

<b>YEAR</b>	<b>Users</b>	<b>Population</b>	<b>% Pen.</b>
<b>2000</b>	40,000	24,400,000	0.1 %
<b>2006</b>	500,000	28,574,909	1.7 %
<b>2007</b>	750,000	30,262,610	2.5 %
<b>2008</b>	2,000,000	31,367,972	6.4 %
<b>2010</b>	3,200,000	33,398,682	9.6 %

**Source:** United Nations Department of Economic and Social Affairs in Internet World Stats 2011

### **1.2.2. Mobile Phones in Uganda**

The 1996 reforms have also had drastic effects in the transformation of the communications industry and the introduction of cellular telephony brought tremendous changes to the telecommunications industry in the country. The first network, Celtel/Zain (now Bharti Airtel) went live in 1995. Two more, MTN and UTL followed in 1998 and 2001 respectively. More recently in 2008, Warid Telecom and in 2009, Orange telecom were also launched (Budde 2012a). With numerous players in the telecommunications industry, competition intensified leading to an unsustainable price war that accelerated subscriber growth. This growth is also attributed to increased network coverage, increased on-net price promotional campaigns leading to multiple SIM-card ownership and marketing strategies by the telephone operators (UBoS 2010a: 55). Uganda's telephone density which was as low as 0.25 lines per 100 people in 1996, grew to 2.5 lines per 100 people in 2003, and it also grew to 6.5 lines per 100 people by 2006 (Ssewanyana 2007: 11). The total teledensity is currently at around 50% (Budde 2012b). The number of mobile phone subscribers increased from 776,200 to over 8.5 million from 2004 to 2008 (UCC 2008 in Martin and Abbott 2011: 18).

As early as 1999, Uganda became the first country in Africa with the number of mobile subscribers exceeding the number of fixed line users, with the ratio now being more than 18:1 (Internet World Stats 2011). This high growth of mobile cellular in the country has facilitated the exposure to mobile technology by many people in the country and the number continues



to grow steadily. Although the market growth for mobile subscribers is growing strongly at a rate of 50% p.a. the market penetration is still low at less than 9%, below the African Average (Internet World Stats 2011). Now hundreds of millions of US dollars are being invested into new infrastructures and telecommunication operators started to increase their tariffs again in 2011 and now offer a range of services as a way of generating additional revenue streams (Budde 2012a). For example mobile money transfer and m-banking services are at the forefront of this development in a country where less than 20% of the population currently hold bank accounts (Budde 2012a)

### **1.3. Problem Statement, Research Objective and Research Questions**

#### **1.3.1. Problem Statement**

The world is first embracing Information and Communication Technologies and developing countries are quickly adopting policies to develop ICTs. Uganda established its ICT policy in 2003 (Kintu et al 2009: i; Farrell 2007: 4) with a dual strategy to facilitate both ICT development and ICT for development initiatives in the country. Over 90% of the world's population has access to mobile networks (ITU 2010: 1). Africa joined the bandwagon and is now at the centre of a mobile revolution with more than one third of its population having access to mobile networks (MMRT 2010). There is thus an incredible mobile phone use on the continent and Uganda alone reflects this immense use, with over 9.8 million mobile phone subscribers in the country and yet the number, continues to grow steadily (ITU News 2009).

This growth is also reflected in the rising internet connections in Africa that increased by 1,031.2% between 2000 and 2008 (UN World Investment Report et al 2008 in MMRT 2010). Although this connection is still low (ITU 2010), it is growing faster than elsewhere in the world and significant investments in fiber optic cables and satellite technologies promise to accelerate it (MMRT 2010). Uganda also mirrors this growth and is still among the top ten countries with the highest internet penetration on the continent (Internet World Stats 2012). By 2010, there were over 3.2 million internet users in Uganda accounting for 9.6% of the country's population (ITU 2011 in Africa Directory 2011). This number continues to grow and was estimated to have increased to 4,178,085 internet users by the end of last year accounting for 12.1% of the country's population (Internet World Stats 2012).

As these ICTs advance in Uganda, it is salient to understand the changes they bring along. In Africa, and even elsewhere, it is impossible to judge the impact of the telephone or internet simply by counting numbers of lines or connections. There is hence, a need to explore and understand how people use these ICTs in order to establish their real development impact. Various studies follow a policy approach and privilege technology while focusing more on extending infrastructure and access, than on what users actually do with such access (Karim 1999 in Mwesige 2003: 84). Hosman (2010: 50 in Martin and Abbott 2011: 17 ) emphasizes the importance of understanding the utility of ICTs [...] and that “merely providing technology does not automatically create a need for it, nor does it foster a culture of use or bring an understanding for the underlying issues and challenges most efficiently addressed with the aid of technology”. Souter (2004: 4) noted that the impact of ICTs is largely unresearched and can easily be exaggerated. The ITU (2011) affirmed that despite the potential of ICTs to gear economic and social development, there is limited quantifiable proof of this, with most remaining anecdotal.

This study primarily looks into internet and mobile phone use among the urban poor in Kawempe division, one of five divisions that make up Kampala district. In Uganda, due to the complex structure of urban communities, most of the urban poor live in slums, the rich in well planned housing zones and the middle class in combined formal-informal settlements (Okot-Okumu and Oosterveer 2010: 51). Wherever they are in the country, the urban poor are faced with an alarming range of challenges. Poverty is a multidimensional phenomenon that although usually is depicted in rural areas can also be exemplified in urban areas particularly among the urban poor. In Uganda, urban poverty is not merely characterized by inadequate incomes leading to an inadequate consumption of basic necessities but is also all round as the urban poor for instance face unsanitary conditions due to neglect from urban authorities exacerbated by prevailing ignorance and poverty (Okot-Okumu and Oosterveer 2010: 2). Other challenges for the urban poor in Uganda include among several others, poor solid waste management (Gombya and Mukunya n.d: 11) and little attention being paid to the electrification of informal settlements (UN Habitat 2009: 35).

Understanding internet and mobile phone use among the poor will thus give an insight into whether their use of these two ICTs can have a way of averting some of their vulnerabilities, particularly in economic stagnation or poverty reduction, health and education promotion. It is

important to understand whether these two ICT tools-internet and mobile phones, to which they have access and use in their daily lives, can have an impact on influencing both their social and economic well being.

### **1.3.2. Research Objective**

The main objective of this study is *“to assess internet and mobile phone use among the urban poor in Kawempe division in order to establish whether these people use these two ICTs for social and economic development”*.

### **1.3.3. Research Questions**

The following research questions addressed the research problem and shaped the study.

1. How do the urban poor access the internet and mobile phones?
2. How do the urban poor use the internet and mobile phones they access?
3. How does their use of the internet and mobile phones contribute to their social and economic development?
4. What challenges are associated with the use of these ICTs among the urban poor?

## **1.4. Presentation of Study Area**

In this section, I give a brief background of Uganda, where the study was carried out. I explore the economic and social aspects of development in the country and I also give an insight into the emergence of urban poverty in the country. I also describe an overview of the studied research area-Kawempe division.

### **1.4.1. Uganda**

Uganda is a landlocked country located in East Africa along the equator. The country is about 800 km inland from the Indian Ocean (ITU News 2009). It borders south Sudan to the North, Kenya to the East, Tanzania to the south and the Democratic Republic of Congo to the West. Uganda has a total land area of 241,038 sq km. The country gets its name from the Buganda Kingdom (Worldatlas 2012) that forms part of the southern region of the country including the capital, Kampala.

**Figure 1: Map of Uganda.**



**Source:** CIA World Factbook 2011

The country was once a British colony until 1962 when it gained its independence. The situation after independence was characterised by an insurgence of political turmoil largely facilitated by grouping together various ethnic groups with different political systems and cultures in the same colonial boundary by the British when Uganda was made a colony (CIA 2012). This hindered the establishment of an effective and stabilised working political community at the time resulting into a period with coups succeeding one another. The period between 1962 and 1986 was characterised by political turmoil, dictatorial regimes, and collapse in both economic and social structures. After 1986, the rule of President Yoweri Kaguta Museveni brought relative stability and economic growth in the country (CIA 2012) except for the northern part of the country that stayed politically unstable for over two decades. The conflict in the north strained the national budget and increased spending on defence at the expense of other important social sectors such as health and education (Mwesige 2003: 86).

### **1.4.2. Uganda: Economic Development Context**

Economic development is a broad term that refers to a nation's total wealth. It is thus a measure of how a country's wealth is generated (Baryamuleba n.d: 470). A country's population contributes this wealth and the study particularly referred to individuals, those at the bottom of the economic pyramid, specifically, the urban poor.

The greater part of post-independence Uganda was characterised by a period of political upheaval and economic stagnation. In 1986 when the current president, Y.K. Museveni took over power after a five year guerrilla war, more than 300,000 Ugandans had been killed in the political violence that was stirred by the rule of dictator Idi Amin Dada in 1971 (Mwesige 2003: 85; Worldatlas 2012). During this period, the economy was shattered by endless political conflict, mismanagement and Amin's erratic policies that destroyed almost all but the subsistence sector of the economy (The Library of Congress Studies and CIA World Factbook 2004).

Uganda's economy has since experienced varying growth rates over the years. According to the Library of Congress Studies and CIA World Factbook (2004), from 1972 to 1976, the country's GDP declined only improving slightly in 1977 and falling again in 1978 to 1980. From 1981 to 1983, Uganda registered a growth rate of 17.3% mainly in the agricultural sector but this did not last as it quickly weakened to 4.2% in 1984, 1.5% in 1985 and 2.3% in 1986 due to the political crisis. As security improved, the year 1987 saw a rise in the GDP to 4.5% to 7.2% in 1988 but a fall to 6.6% in 1989 and further to 3.4% in 1990 due to fluctuating world market prices, drought among others. Most recently in 2008, Uganda's GDP increased to 8% (NDP 2010: 1). This growth in the country's GDP contributed to a significant decline in the poverty levels, reducing to 31% people living below the poverty line in 2006 (NDP 2010:1). Uganda's GDP growth is relatively strong, courtesy of past reforms and sound management of downturn (CIA World Factbook 2012a). Although this growth rate and decline in poverty levels is commendable with Uganda's economic growth impressively remaining well above the Sub-Saharan Africa average, the country generally still remains among the world's poorest countries (Gollin and Rogerson 2010: 4). Even agriculture, a core sector in the country's economy, employing over 73% of the population ((UBoS 2005 in NDP 2010: 77) and practised not only in rural areas but also urban areas (UN Habitat 2009: 34), is

not performing impressively (NDP 2010: 77). Although Uganda has surpassed the 2015 Millennium Development Goal of halving 56% poverty rate recorded in 1992/93, 25% of the people in the country in 2009/10 still lived in poverty (The World Bank 2011).

### **1.4.3. Uganda: Social Development Context**

Social development is a broad term pertaining to social progress of a society or community and this study will be limited to two aspects of; health and education. In this study social development in Uganda is particularly limited within the ability of the country or community for that matter to have good health services and education services that are depicted by the level of literacy.

### **Education Services in Uganda**

Education services like many other social services in Uganda suffered the political instability in the 1970s and 80s that brought down the educational infrastructure and most of the country's trained man power was lost through brain drain (MoES 2001: 2). Before this period, Uganda's education sector flourished among the most well developed in sub-Saharan Africa but the quality of the education system quickly crumpled due to political strife resulting into poor enrolment and exorbitantly high dropout rates from school (MoES 2001: 10). To tackle these challenges, the current government that came into power in 1986 introduced major reforms in education, in line with the Education white paper in the areas of policy, legal framework and measures to increase access, quality and enhance equity at all levels of the education sector (MoES 2001: 8). Education was decentralized to the Local Government and it is important to note that individuals, the private sector and NGOs also provide it. As of 2009, education expenditure by the government amounted to 3.2% of the G.D.P (CIA 2012)

Education in Uganda is compulsory and in 1997, Uganda launched its Universal Primary Education (UPE) which doubled school enrollment to 5.4 million pupils in two years (Xinhua News Agency 2001 in Education Encyclopedia 2012). In 2007, Uganda also became and is still is the first African country to offer Universal Secondary Education (USE) (Molyneaux 2011). At university level, girls are added 1.5 points in order to facilitate their entry into university. These efforts by the government have had tremendous effects on the education of its population considering that Uganda's history of political strife had brought a set back to

the education sector. Currently the literacy<sup>3</sup> rate in the country is at 66.8% of the population (CIA 2012). However these efforts by government have been undermined among others by a lack of adequate resources and a shortage of trained manpower yet more than 30% of the country's population still remains illiterate (UNESCO 2012).

### **Health Services in Uganda**

The health sector was also not immune to the political catastrophe that befell Uganda in the 1970s and 80s. Hospitals and infrastructure were destroyed and health care was largely fragmented and almost abandoned by the central government (Carlson 2004: 99). When the current government took over power in 1986, it brought relative stability and along with it the rehabilitation of important infrastructure and delivery of services. At this time, the government prioritized to create a needs-based and cost-effective health care system and thus developed two main strategies to facilitate its goals, that is;

1. Decentralization of the health sector so as to increase responsibility, accountability and lower level participation.
2. Strengthening the national policy formulation capacity based on needs assessment and cost-effective prioritization (Jeppsson 2004: 15).

According to Carlson (2004: 99), the rehabilitation of health services was considered important at the time and this period saw facilitation from multilateral and bi-lateral agencies. Although health care service delivery was a key element for most aid agencies, it was not mirrored by the development of the national health policy that remained ad hoc and focused on hospital rehabilitation in 1986-1993. From 1993, the National Health Plan (NHP) was produced along with the Local Government Statute and subsequently the Health Sector Strategic Plan (HSSP) in 2000. Donors also continue to support the health sector even through direct budget aid.

Uganda's economic growth has not reflected parallel improvements in the health sector. Currently government expenditure on the health sector is estimated at 8.2% of the GDP (CIA 2012). The budgetary allocation to the health sector increased from 644.65 billion in the financial year (FY) 2010/2011 to 1010.98 in FY 2011/2012 but this 57% increase in health sector financing is not enough and below the country's own health budget estimates in the

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<sup>3</sup> Literacy is defined as those individuals age 15 and over who can read and write (CIA 2012)

National Development Plan (Kintu 2011: 2) Such ineptness in health financing limits the sector's ability to address some of the persistent challenges of the health sector, challenges such as the much needed human resource (Kintu 2011: 2). Currently issues of infant mortality are high at 13.7%, 16 women die daily in the country during child birth (Kintu 2011: 1) and the HIV prevalence rate in the country is at 5-10% (MoH 2010: xxi). These among others are some of the health challenges that have continued to threaten the health sector in Uganda. These challenges pose a threat for Uganda towards meeting the MDG health goals.

#### **1.4.4. Population Trends and Urbanization in Uganda**

The current July 2011 population estimates for Uganda indicate that there are over 34,612,250 people in the country and its growth rate is high at 3.6% (CIA World Factbook 2011). Uganda is undergoing a profound demographic transition and its population is projected to grow to more than 68 million people by 2035 (Akporji 2010: para 1). The country is also among the most rapidly urbanizing countries in Africa due to a range of economic, political, social, cultural and environmental factors (Dhihendra 2002 in Byamugisha et al 2008: 572). As of 2007, Uganda experienced an increase in rural-urban migration and its urban population rate stood at 14.9% (UBoS 2008 in Okot-Okumu and Oosterveer 2010: 51). Some scholars like Fengler (2010) are in favour of large populations arguing that high populations are parallel to urbanization and are closely correlated with economic development further emphasising that "no country has ever reached high income levels with low urbanization". However in Uganda, rapid urbanization is occurring not only in "the history of conflict, widespread poverty and a modernizing shrinking agricultural economy, but also one of limited and unreliable energy supply and acute scarcity of resources for local authorities" (Akporji 2010: para 6). Thus one cannot fully applaud the high urban populations in Uganda based on Fengler's (2010) arguments given the daunting background and situation in which it is occurring. Even if this high population comes with high economic growth, issues pertaining to for example social development might still be left uneven if both historical and current social and economic vulnerabilities are not tackled in the presence of the looming high population growth in the country both in rural and urban areas.

13% of Uganda's population is an urban population (CIA Factbook 2011) and the country is now facing challenges in meeting the needs of its city population as the rapid growth in urban



populations did not correspond with the provision of well planned services in these urban areas (Okot-Okumu and Oosterveer 2010: 51). As cities grow, the cost of meeting basic needs for the populations also increases and so does the strain on resources (The World Bank 2012). Kampala district is the capital city of Uganda and according to the Uganda Bureau of Statistics (2010: xv), it has a population of 1.66 million people. 39% of the city's population live in absolute poverty, with 43% unemployed (McGill 2011). Over 50% of Kampala's population is made up of the urban poor living in informal settlements<sup>4</sup> and poor conditions (Lwasa 2009 in Mabasi 2009: 3). Poverty in Kampala alone is rapidly urbanizing. This study draws on one of Kampala's divisions, that is; Kawempe division that harbours so many slums<sup>5</sup> and an acute number of the urban poor in some of its suburbs.

### **1.5. Research Context; Kawempe Division**

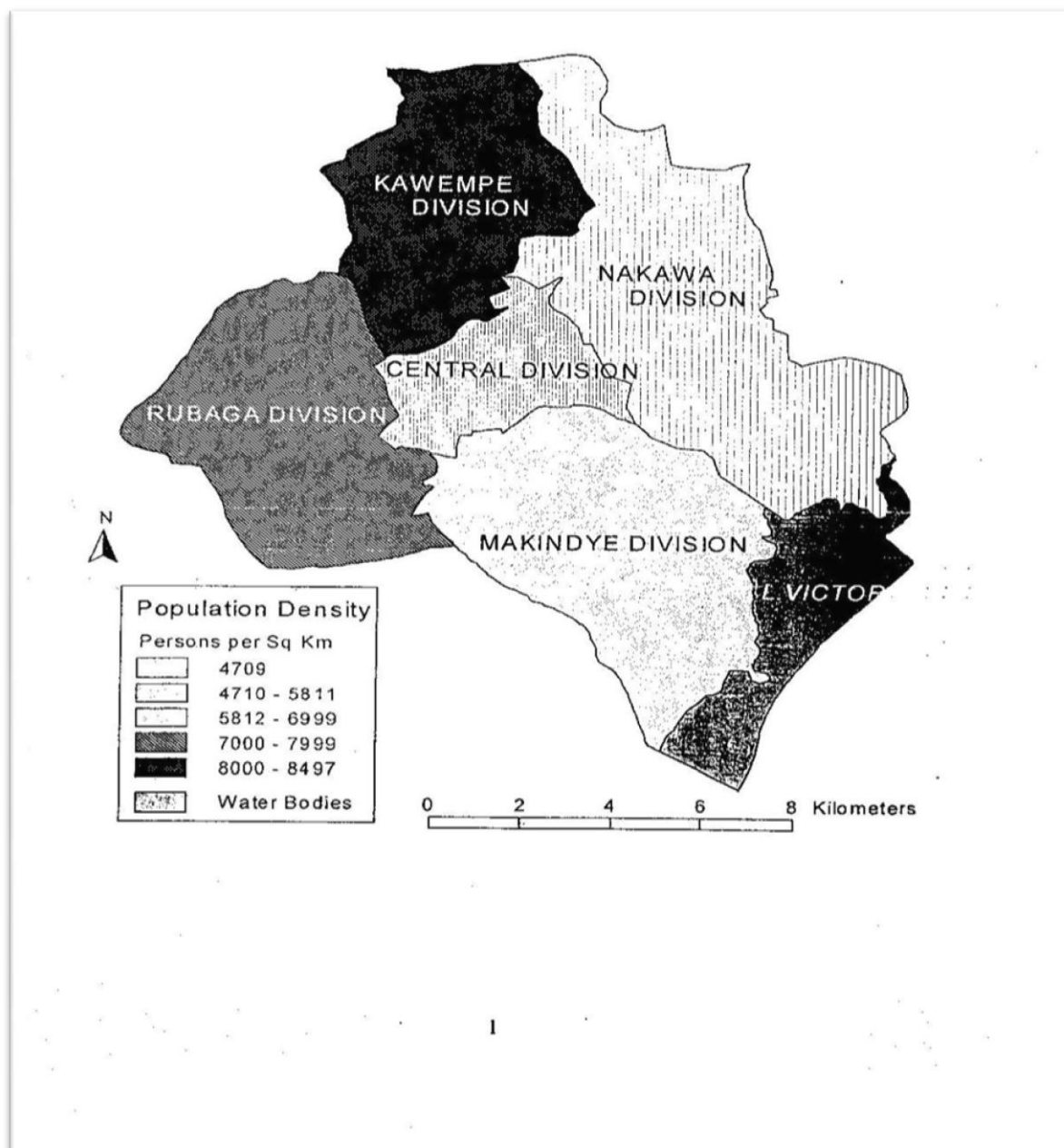
Kawempe division is one of the five divisions that makeup Kampala district- the capital city of Uganda. It is located in the northern part of Kampala, 45 km north of the equator. It borders Wakiso district in the northwest, Rubaga division in the southeast, Nakawa division in the northeast and central division in the southwest. The division of Kawempe covers an area of 32.45 square kilometres. It is also made up of 19 administrative parishes subdivided into a total of 119 villages also referred to as zones.

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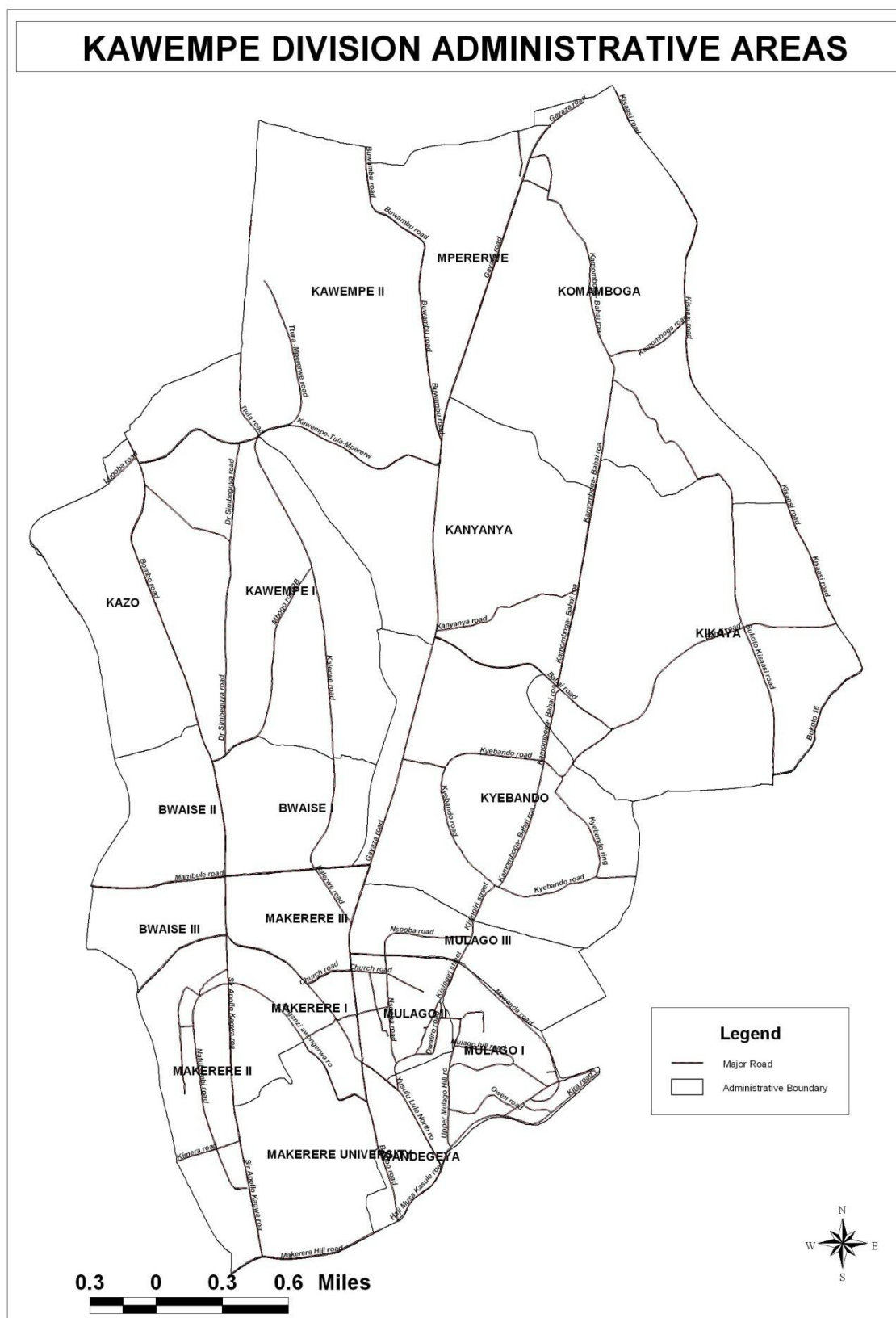
<sup>4</sup>The term 'Informal settlement' is used as a synonym for 'slum' in the study. The two words are used interchangeably in the study.

<sup>5</sup> A slum can be defined as a "contiguous settlement where the inhabitants are characterized as having inadequate housing and basic services. A slum is usually not recognized and addressed by public authorities as an integral or equal part of the city." (Oxfam GB Kenya Programme 2009: 5)

**Figure 2: Map of Kampala district showing all five divisions and the location of Kawempe division**

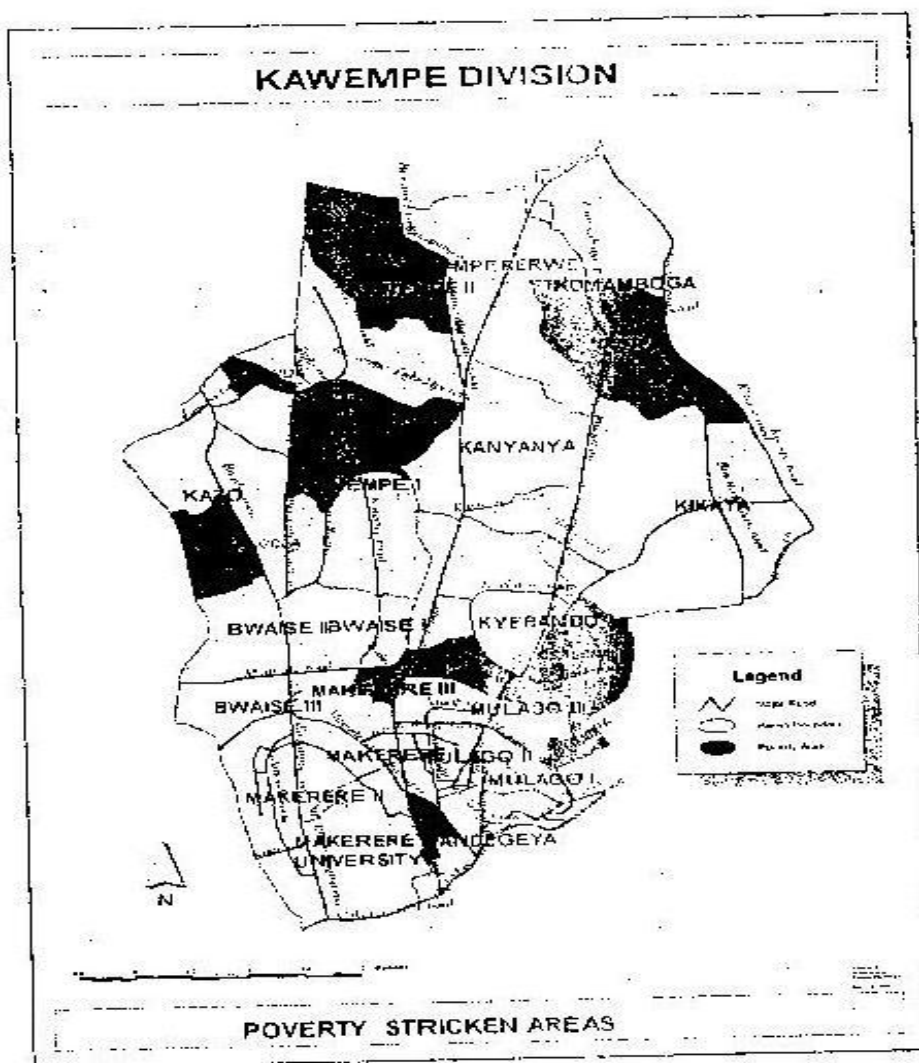


**Figure 3: Map of Kawempe showing Administrative areas**



As of 2010, Kawempe had a population of 391,809 people of which 48% were male and 52% females. Kawempe division is the most highly populated of all Kampala's divisions and in 2002, it accounted for over 39.6% of Kampala's urban population (Kawempe Division Economic Planning Unit 2008: 53). Kawempe's population can be explained by rural-urban migration. The division is also characterised with areas that are highly populated like Bwaise, Kyebando and Mulago among others characterised by uncontrolled developments and slum conditions and poverty in most suburbs. Relative poverty is very high in the area, at about 80% of the population (Kawempe Division Economic Planning Unit 2008: 46). Poverty stricken areas in Kawempe are characterised by temporary or semi-permanent structures that do not meet minimum planning standards, with unsafe water sources, poor sewerage and waste management and poor infrastructural and utility development.

**Figure 4: Map of Kawempe Division showing the poverty stricken areas**



## **1.6. Thesis Outline**

This thesis is organised in six chapters. In the first chapter, I present the introduction to the study and the background for internet and mobile phone use in Uganda. This chapter also illustrates the problem statement, main research objective, research questions and finally gives a description of the area of study and the country in general. Then in the second chapter, I present the literature review and theoretical basis for the study. Chapter three follows with the research methodology discussing the justification for the research strategy, design, methods and data analysis strategy. In chapter four, I introduce the empirical findings from the fieldwork reflecting on important aspects from both the Diffusion of Innovations theory and the Capability Approach and also a reflection on the literature. Chapter five presents the analysis of the study findings lastly followed by chapter six in which I will present the study's conclusion and recommendations.

## **Chapter 2: Literature Review and Theoretical Framework**

In this chapter, I present the literature review for the study highlighting important aspects from existing scholars' work that relate to this study. The chapter also presents the theoretical framework which depicts two selected theories, that is; the *Diffusion of Innovations Theory* and the *Capability Approach* that highlight relevant concepts through which the research study was examined.

### **2.1. Literature Review**

This section gives a literature and theoretical overview of the 'end users'' usage of the internet and mobile phones. Theoretical advances by various scholars were carefully reviewed, evaluated and woven together in a thematic review<sup>6</sup> (UNC 2012) to reflect on important selected issues that relate to the main theme -internet and mobile phone use and the stated research questions. This literature review section is very important as it synthesizes important aspects in other scholars' work that are related to the study hence facilitating the study's credibility. First, theoretical blocks are constructed to highlight and reflect on the study's main selected themes, that is; internet and mobile phone access, internet and mobile phone use, how ICTs in particular the internet and mobile phone use can influence both economic and social development and possible challenges with internet and mobile phone use.

#### **2.1.1. Internet and Mobile Phone Access**

According to Herselman and Britton (2002: 271), almost in every country, "it is a certain percentage of people who have the best ICT available to society". These have access to computers, information sources, telephones, internet, and a wealth of content and relevant training. These people are the '*haves*' who can afford technologies, hence can secure digital opportunities. In the developing world, internet use can be found mainly among the young and well educated middle class (Cranston et al 2011: 53). The number of internet users in Africa, which can be used as a proxy for middle class, increased from approximately 4.5 million people in 2000 to 80.6 million people in 2008 (Ncube et al 2011: 8). Still, it should be noted that less than two out of 100 people in Africa use the internet (ITU 2011).

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<sup>6</sup>A thematic review of literature is organised around an issue rather than the advancement of time (UNC 2012)

There are also people who, “for social or economic reasons do not access computers, information sources, reliable telephone services, let alone the wealth of information and convenience afforded to one via internet services” (Herselman and Britton 2002: 271). These are usually the poor or ‘*have-nots*’ and the urban poor can be categorized among these people because of their limited access to resources. The difference between these two groups of people is referred to as the *digital divide*. Even though internet access is quite higher in urban cities of developing countries, there are still people like the urban poor who do not enjoy the same access as the middle class or those relatively wealthier. For example, a research by Parkinson (2005: 61) revealed that internet cafés in South Africa typically existed in only big cities like Johannesburg and Durban but these mainly served middle class people and occasionally university students.

Scholars accept the existence of a *digital divide* but its dimensions, dynamics and relevance are still widely debatable (Compaine 2001 in Haseloff 2005). Often, it is only limited to access and infrastructural aspects. Although access is a prerequisite for ICT use, making effective use and deriving benefits from ICTs requires strategies that surpass providing simple access, to developing needed skills, relevant content and applications together with a technology supportive environment (Gurstein 2003 in Haseloff 2005).

Literature indicates that, internet access maybe mostly enjoyed by the ‘*haves*’ due to cost. Haseloff (2005) pins low internet access in developing countries like India, to low personal computer ownership and expensive hardware. Usually, low incomes make the internet expensive and thus limiting its access among the poor. It should be noted however that even with the existence of the *digital divide* fuelled by a range of factors, the poor have devised means of accessing these ICTs. Internet cafés offer a major internet access point for people in economically poor countries, ideally representing reasonably priced internet access (Furuholt et al 2005: 1&2). Internet kiosks, cyber cafés and multipurpose community telecentres in developing countries are usually facilitators of universal access in countries where there are still many challenges to internet access from the comforts of one’s home or the work place (Minges 2001 in Mwesige 2008: 484). Besides economic factors, cognitive barriers like low literacy rates, lack of English language skills or lack of e-literacy skills limit the use of ICTs (Warschauer 2003 in Haseloff 2005). This is an issue that also explains the *digital divide* and

impedes the access to these ICTs like the internet among those that lack basic the necessary skills to use them.

On the other hand, the mobile revolution in Africa is providing digital opportunities to a wider population than the internet. Mobile telephony is more affordable and plays a big role as a digital bridge (APC 2009). Mobile telephony penetration in Africa was indicated to grow exponentially from less than 2 million subscribers in 1998 to 400 million in 2009 (Ncube et al 2010: 1). In many African countries, the distribution of mobile phones is concentrated in urban areas, but it also reaches the poor. In Ghana for instance, about 83% of mobile subscribers are in major cities (Rashid and Elder 2009: 3). Due to factors like increased private sector completion and innovative payment methods like the pre-paid method, mobile phones are increasingly affordable and accessible to low income earners more than computers (Rashid and Elder 2009: 2) hence, bringing digital opportunities closer to the poor. Even with challenges of cost, users get around by sharing handsets. A survey in Kibera slum, Nairobi found that nearly some ten users can make use of one mobile handset (Cranston et al 2011: 55).

The above discussion shows some of the complexities that can be associated with both internet and mobile phone access. Some of these complexities present themselves as contributors to the *digital divide* hampering access to these ICTs among especially the most vulnerable people like the poor. However, the *have-nots* or poor in this case have devised ways to go around the digital divide and access these ICTs. The following discussion will now highlight some of the uses people undertake with their access to the internet and mobile phones.

### **2.1.2. Internet and Mobile Phone Use**

Literary put, the term ‘use’ refers to putting into service or employing something for some purpose (The Free online Dictionary 2012). Famous economist and scholar Amartya Sen asserts that the availability and use of technology is no longer optional. This is attributed to the fact that the reduced cost of technology and ICTS has increased the possibility of technology diffusion (Thapa et al 2012: 5). For instance in, Asia, and Latin America, 23.8%, and 36.2% of the population are internet users respectively (Internet World Stats 2011). This shows a great deal of internet use among populations. The uses of ICTs whether internet or mobile phones among people take on different dimensions, from those that are completely



non-developmental to those that are. Globally, the internet is changing the way people live, work, communicate, recreate and participate in public life (Haseloff 2005). Internet users engage in activities like getting health information; doing research; emailing and listening or downloading music among several others (Zickurh 2010: 3). Virtual online social networks enable their members to interact equally with one another on the World Wide Web (Hackner and Garcia 2002: 1). Blogs, facebook and online communities create new modes of social interaction (APC 2009). Cranston et al (2011) stress that, in developing countries, Facebook and You Tube are among the most used sites with South Africa, the eighth largest user of Facebook globally. It is important to understand whether such uses of the internet can be both socially and economically developmental among internet users.

Interestingly, while cost is an important consideration for the poor, they spend substantial amounts of their income and monthly costs using mobile phones. A research by Rashid and Elder (2009: 4) showed that monthly expenditure on mobile phones in India and Sri-Lanka ranged from 4-8% of users' income. In these countries, the main perceived benefit of mobile phone use among the poor, is improved communication with family and friends. A south Asia study indicated maintaining social relationships as the most important use of mobile phones (Zainudeen 2008: 50 in Rashid and Elder 2009: 4). Respondents in the same study also identified symbolic factors (fashion and improved social status) as key for using mobile phones. Also, in some cases, mobile phone users can access networks that promote access to mobile payment systems or banking services and help keep users up-to-date on a variety of health and market policies (UN News Centre 2011).

The above discussion gives an insight into how people can make use of their access to the internet and mobile phones. It highlights what people can actually do with their access to the internet and mobile phones. Given the different uses that people undertake, these can either be developmental or not. I will now look at how these two ICTs-the internet and mobile phones can influence or contribute to both social and economic development.

### **2.1.3. The Influence of the Internet and Mobile phones towards Economic and Social Development**

There has continued to be much optimism about the potential of the internet and mobile phone towards enhancing development yet the scepticism around such arguments cannot be ignored

as some scholars consider the enthusiasm around the potential role of these ICTs towards development almost utopian. According to Braga et al (2000: 2 in Mwesige 2003: 89), the “networking” revolution creates digital opportunities for developing countries in which they can benefit from investments in modern information infrastructure in a pro-competitive regulatory environment, and leapfrog stages of development in terms of networking roll-out. It is generally believed that access to ICTs has the potential to alleviate poverty, promote economic and social development and also improve the quality of life of people (UN 2007: 1). Thus, many developing countries attempt to integrate technology into their development planning so as to find effective and speedy development solutions as well as create enabling environments for development, creating jobs, improving health and education among others. Putting ICT at the centre of developing countries’ initiatives, can effectively support their economic and social development goals (DPADM/UNDESA et al 2009: 1). In fact, the United Nations officially accepted that, “the introduction of the use of ICT and information management must become an integral element” of its “priority efforts to promote and secure sustainable development for all” (Hilliard 2002: 27 in Mwesige 2003: 89).

While the enthusiasm around ICT investments to facilitate economic growth has grown, some studies have shown only a limited correlation between investment in ICTs and economic growth (Yang 2001 in Soeftestad and Sein 2003: 1). Findings of general failure cause doubt about whether ICTs have any real effect on national development (Heeks 1999 in Soeftestad and Sein 2003: 1). On a more positive note, there are some studies that indicate economic growth as being increasingly influenced by the availability of efficient telecommunications and informatics infrastructure, making the usefulness of networks nearly self evident (Braga et al 2000 in Mwesige 2003: 89). An OECD (2002) research showed that ICT investments accounted for between 0.5% and 1.3% GDP growth per annum over a number of economies between 1995-2000 (Ndou 2004: 7). Also in the USA, a study reported over 1.2 million jobs created by the internet with majority paying more salaries than the average (Thibodeau 2009). Some scholars like Heeks and Kenny (2001 in Kenny 2003: 106) assert that such growth prospects influenced by technology are probably more witnessed in wealthy countries than in poor countries. The ITU (2011) generally strongly argues that the introduction of high-speed Internet access enhances the transformation of Information Societies since it opens up new possibilities and visions on how the Internet can provide a platform for enhancing countries’ social and economic development.

The internet serves all sectors of society like education, health, commerce trade due to internet access to information and to individuals through electronic mail (Sadowsky 1996: para 3). The availability of ICTs facilitates people to acquire knowledge that they can use to strengthen their social and economic standing in society, as they are able to use the knowledge to tap on various income generating opportunities and also influence service delivery (Greenberg 2005 in Ssewanyana 2007: 14). In improving lives, the potential role of mobile phones and the internet in delivering health information could be outstanding. While early efforts in the use of ICT in health care showed mixed outcomes, currently there is considerable enthusiasm about ICT's role in this sector (Elder and Clarke 2007 in Rashid and Elder 2009: 8). This is due to the rise in mobile phone penetration that can facilitate delivery of health services to people in developing countries (Rashid and Elder 2009: 8). Mobile phone based applications and development initiatives also have the potential to facilitate the delivery of not only financial but also health and education related services to people (Aker and Mbiti 2010: 9)

However, evidence regarding the role of mobile phones in contributing to greater income generation or employment opportunities remains unconvincing. Kenny (2003: 107) argues that over the years, developing countries have seen a far rapid spread and growth of mobile phones than in developed countries but there has continued to be a divergence of income between the rich and poor countries none the less. LDCs' growth rates have not improved significantly even as networks have expanded (World Bank 2001 in Kenny 2003: 107). Promisingly, a LAC study suggested that mobile telephony is beginning to prove useful in enhancing business and employment opportunities (Galperin and Mariscal 2007 in Rashid and Elder 2009: 4). According to Aker and Mbiti (2010: 9), mobile phones can provide economic benefits to people through improving access to and use of information which helps to reduce search costs, improving coordination of economic activities and increasing market efficiency. They also create new job and income generating opportunities to address demand for mobile-related services. In Bangladesh, the Grameen Bank NGO offers women low cost loans to establish mobile phone exchanges in villages with few landlines. They charge for the use of their village pay phones, and earn close to three times the annual average income. Their earnings allow them to send their children to school and enhance their status in the community. The scheme is however threatened by the increasing availability of cheaper

phones for potential purchasers (Parliamentary Office of Science and Technology 2006: 1). Generally, with the high mobile penetration, individuals are more likely to try, discuss or observe the usage of mobile technology for commerce (Khalifa and Cheng 2002: 1)

Also, the UN is undertaking initiatives to increase mobile phone access in order to improve economic and social development. Approximately three million poor people in Africa and South Asia mostly women, will gain access to low cost mobile phones. This is aimed at fighting poverty and is part of the Business Call to Action (BCtA), a global initiative supported by UNDP, various organizations and governments. Directly quoted, BCtA Acting Programme Manager, Amanda Gardiner said,

*“Evidence shows that access to mobile communications is a way of improving lives and expanding the earning potential of one billion people living on \$1-2 a day,”* (UN News Centre 2011).

The discussion above depicts that amidst so much scepticism about the potential role of the internet and mobile phone in social and economic development, there is still potential for these two ICTs to impact positively on these two forms of development as some scholars’ empirical investigations highlight. Even then, this is not all white and black, due to prevailing possible challenges for both internet and mobile phone use as the discussion below describes.

#### **2.1.4. Challenges faced in the use of ICTs- Internet and Mobile Phones**

Despite potential benefits from internet and mobile phone usage, various challenges still stand. Although Africa’s communication infrastructure increased, it is still the lowest globally and still below the global average (AEO 2012: para 1&2). There is hence need to improve the regulatory environment including policy and physical communication infrastructure in Africa (Schauer and Radermacher 2001: 8). Poor infrastructure, accounts for the region’s low ICT adoption rates (Heacock 2010: 1). Many developing countries suffer from the *digital divide* and are not able to deploy appropriate ICT infrastructure. They lack sufficient resources to build ICT infrastructure making them constantly trapped in a “low-ICT equilibrium trap” (Addison and Heshmati 2004: 154).

Even with ICT infrastructure in place, it does not only cover telecommunications and computer equipment. *E-readiness* and *ICT literacy* are necessary to facilitate use of ICTs.

Presumably, the higher the level of human development, the more likely citizens will be inclined to accept and use ICT services (Ndou 2004: 13). In society today, most people need basic ICT skills (MPICT 2010). It is hard for technology to benefit those with limited education and skills to use even the most basic device (Sharma and Sturges 2007: 1). In 2003, it was established that one third of adults in low income countries cannot even read-a vital skill for meaningful internet use (Kenny 2003: 104). Yet in Uganda, there is a high rate of IT illiteracy in general (MoICT 2010: 1). Parkinson's (2005: xviii) study in South Africa and Uganda, revealed computer users as those usually with higher education (secondary or above) and often have some prior exposure to computers through school, work or are introduced through a friend or family. These are mainly the middle class (Ncube et al 2011: 15) implying that those with limited exposure stand lesser chances of making use of computer related services and exploiting ICT access. Encouragingly, mobile phones only require basic literacy, making them accessible to wider populations including the poor (Rashid and Elder 2009: 1).

For the poor, issues of cost usually restrain their use of the expensive and complex technology (Sharma and Sturges 2007: 1). This, results into cultural segregation for *have-nots* pushing them back further on the periphery of the global marketplace (Hackner and Garcia 2002: 1). According to Cranston et al (2011: 55), the cost of entry for a user is high- a wireless modem using WiMAX may cost US\$200 even before one buys a PC. The price of the latter in Africa may vary between US\$200-300 for a second-hand machine to between US\$500-1,000. Laptops are even more expensive. Mobile phones can cost upwards of US\$50. From a broader picture, it should be noted that only around 40% of LDCs' population own mobile phones with negligible access to internet (UN and ITU 2011: 1). The presence of such expensive technologies in developing countries is thus far beyond the financial means of majority of the people in these countries. Promisingly, given the low cost and increasing ubiquity of mobile phones (Trucano 2010) compared to computers and internet services, they can be found even among the poor. Yet still, the inequitable access and uneven proliferation of these ICTs, hinders some people from seizing digital opportunities.

#### **2.1.5. Summary and Conclusion of Literature Review**

The literature review sections are each carefully synthesized to respond to the research questions of the study. They are thus important theoretical blocks and features from previous

scholars' studies recapitulated to fit together in order to respond to the main themes in this study.

Section 2.1.1, of the literature review elucidates that even amidst the existence of a digital divide between the *haves* and *have-nots*, the *have-nots* have devised ways of accessing both the internet and mobile phones. Access to the internet is usually limited by issues such as cost but public internet cafés have offered the solution to cheaper internet access. Yet it is important to note that although public internet cafés might offer solutions to cost, illiteracy and lack of basic e-literacy skills still remain major challenges for the poor in developing countries to use the internet. The mobile phone on the other hand is accessible by majority of populations in the developing world including the poor due to their less complicated technicality to use and relatively cheaper prices. The poor have also devised ways of access to mobile phones such as sharing handsets where costs present themselves as challenges.

The second section, 2.1.2., in the literature review, offers a scholarly understanding of the various uses that are undertaken by end-users when they access the internet and mobile phones. Internet use in this section is more described generally among all people but the literature is limited on particular internet use among the poor, least the urban poor. Mobile phone use is also described in this section and some studies highlighting how the poor use mobile phones are also presented here. It describes a range of uses among end-users that are both potentially socially and economically developmental and those that are not.

It should be noted that ICTs alone, whether the internet or mobile phones, cannot influence or impact development by themselves but rather their proper use can.

In section 2.1.3 of the literature review, although some scholars are sceptical about the potential of the internet and mobile phones in influencing both social and economic development, other scholars have proven otherwise highlighting prospects for economic growth, health and education facilitation through both the internet and mobile phones.

Section 2.1.4., of the literature review serves as a reminder that even though there could be potential for influencing social and economic development through internet and mobile phone use, there are still challenges faced by the end-users that could hamper these prospects. Infrastructural shortages, illiteracy and high cost of technology are among those most noted.

## **2.2. Theoretical Framework**

This section of the chapter illustrates the theoretical basis for the research study. Unlike the literature review, the theoretical framework outlines interrelated concepts in each theory that guided the research on the important phenomena to relate to and look for during the study. The two theories thus provided a lens through which the study was examined and they guided and influenced data collection and analysis.

The study was based on the integration of Rogers' Diffusion of Innovations theory and Sen's Capability Approach. The study tested both theories and the two complemented each other in responding to the research questions with one filling in the gaps left by the other. The DoI theory was used to determine if it was applicable in elucidating internet and mobile phone adoption and use in Kawempe. Eight PCIs in the DoI were thus put to test in the field. The CA theory was used to determine whether internet and mobile phones use among the urban poor in Kawempe can influence economic and social development.

Roger's DoI theory explains the PCIs behind an individual's choice to adopt or reject an innovation. It is salient therefore to understand people's motivations behind ICT adoption and access which is important in understanding the adaptability of these technologies to social and economic practices (Kaba et al 2006 in Martin and Abbott 2011: 18). These attitudes depending on why one sees it fit to adopt the use of a particular innovation in some way can to some extent influence how one will use that innovation or otherwise. This is not definite, as other uses for a particular innovation can emerge with time regardless of the initial motivation behind the adoption of an innovation as the study discovered.

The DoI was used to understand individual's motivation towards adopting both the internet and mobile phones and explain their use among the urban poor of Kawempe. This helped to respond to research questions one and two. On the one hand, while the DoI theory responds to the PCIs that determine ICT adoption and use, it also responds to why innovations may not be adopted and used. This in practicality reflects some emerging challenges to the adoption and use of some innovations as the study discovered with both the internet and mobile phones in Kawempe. This responded to research question four.

After innovations like the internet and mobile phones have been adopted and accessed in various ways, their impact on development can best be seen or understood through the lens of the CA theory. Sen's CA helped to mainly explain how internet and mobile phone use among

end-users can impact social and economic development that helped to address research question three. Sen's *personal conversion factors* were also used to respond to research question four.

Using the DoI alone in this study would be inefficient as it would only be limited to responding to research questions one, two and four. While we would understand reasons, behind internet and mobile phone adoption and use, it would be rather hard to understand the impact of these uses of both the internet and mobile phones in economic and social development. That is where the CA comes in to fill the gap of the DoI in this study by elucidating how the various uses of these two ICTs can impact on both social and economic development. If only Sen's CA was used in the study, it would be almost impossible to have a root understanding of the motivation and perception behind internet and mobile phone adoption that facilitate access and use among the urban poor. So these two theories both serve very important purposes in responding to the research questions and the gap left by one is covered by the other. The study did not only base on these two theories but also hoped to contribute to building them.

### **2.2.1. Diffusion of Innovations Theory**

The study draws on Rogers' (2003) model of Diffusion of Innovation Theory to help understand the usage of new technology innovations, in this case; internet and mobile phones that have diffused through the urban poor community in Kawempe. Rogers (2003) model of the DoI theory is popular and has become a standard reference in many studies among various disciplines like economics, sociology, education, public health, marketing and technology among others (Meyer 2004 in Richardson 2009:158).

The study's focal interest is on Internet and mobile phone usage directed towards one dimension of use, that is; *diversity* of use, described as the "degree to which one uses a previously adopted product or process in a different use domain (Thompson et al 1991 in Moore and Benbasat 1996: 135). The study therefore set out to encompass and establish all the different functions one makes use of the internet and mobile phones. The research then analyzed these various uses for the internet and mobile phone identified among the urban poor in Kawempe and it was from these uses that the study established whether the uses do or do not influence the outcomes of the users' social and economic development.



Diffusion, to Rogers (2003: 11 in Richardson 2009: 158), is “a process by which an innovation is communicated through certain channels over time among members of a social system”. Rogers (2003: 12 in Richardson 2009: 158) describes an innovation as “an idea, practice or object that is perceived as new by an individual or other unit of adoption”. The model explains the process through which an innovation is communicated and thereby adopted by members of a society. This is subjective to individual, group or organizational perceptions that an innovation, is a new means of solving problems or exploiting opportunities (Rogers 2003 in Gretzel et al 2010: 442). In diffusion theory, the perceptions which are hypothesized to have an effect on people’s attitude are referred to as the Perceived Characteristics of Innovations, which are linked to adoption/rejection decisions (Moore and Benbasat 1996: 135). Rogers (2003 in Richardson 2009: 158) stated five attributes that impact a person’s choice to adopt an innovation, referring to them as perceived attributes to innovations- *relative advantage*, *compatibility*, *complexity*, *trialability* and *observability*. Authors like Chiasson and Lovato (2001 in Richardson 2009: 158) expanded them into eight, referring to them as Perceived Characteristics of Innovations (PCIs) - *relative advantage*, *image*, *compatibility*, *ease of use*, *visibility*, *results demonstrability*, *trialability* and *voluntariness of use*. These innovation attitudes are realities perceived by the end-user and thus are specifically determined by the individual. Thus adopters and non-adopters for an innovation can emerge depending on how one is influenced by the PCIs (Rogers 2003 in Richardson 2009: 158). The study drew on Roger’s cognitive aspects or perceived attributes to innovations expanded into the eight PCIs in order to understand reasons that may drive an individual to either adopt/reject or use internet and mobile phones.

**Table 2: Description of the Perceived Characteristics of Innovations**

<b>PCI</b>	<b>Description</b>
<b>Relative Advantage</b>	Degree to which an innovation is perceived as a better idea Measured by economics, social factors, convenience, and satisfaction
<b>Image</b>	Degree the innovation enhances one’s reputation with peers
<b>Compatibility</b>	Degree of perceived consistency with one’s values, experiences, and needs
<b>Ease of Use</b>	Perceived degree of difficulty with using the innovation

<b>Visibility</b>	Degree the innovation is visible
<b>Results</b> <b>Demonstratability</b>	Degree one can see results of using the innovation
<b>Trialability</b>	Degree the innovation can be experimented or practiced
<b>Voluntariness</b>	Degree using the innovation is viewed to be voluntary

**Source:** Richardson (2009: 159)

In the study, the researcher analyzed factors that influenced internet and mobile phone adoption/rejection and use among the urban poor in Kawempe and these factors were viewed through Roger's PCIs. In this way, this theory was used to respond to research questions one, two and four of the study. Understanding internet and mobile phone adoption and use through this theory helped facilitate answering research question three.

### **2.2.2. The Capability Approach**

Scholars in a wide range of fields like development, welfare economics, social policy and political philosophy use the Capability Approach (Robeyns 2003: 5). The theory cuts across a range of disciplines but its writings can be viewed through a researcher's disciplinary lens. In this study, Sen's Capability Approach was mainly used to help explain the impacts of internet and mobile phone use among the urban poor in Kawempe on social and economic development. In the Capability Approach, Sen conceptualizes development as freedom and differing from dominant economic decision-making to explain development, Sen's broader view focuses on the social dimension of development (Lehtonen 2004 in Thapa et al 2012: 5). In this study, the two ICTs- internet and mobile phones were assessed to evaluate their potential in enhancing freedoms that eventually culminate into development-social and economic development particularly.

The core focus of the Capability Approach is on "what people are effectively able to do and be; that is their capabilities" (Robeyns 2005: 94). Sen argues that focus should be pointed towards what people are able to do and be, on the quality of their life, and on removing obstacles in their lives so that they have more freedom to live the kind of life that, upon reflection, they have reason to value (Robeyns 2005: 94).

According to Robeyns (2003: 6; Robeyns 2005: 95), a key analytical distinction in the capability approach is between the means and the ends of well-being and development, with only the ends having intrinsic importance while the means are only instrumental to reach the goal of increased well-being and development. However, these distinctions often blur. People's well-being and development should therefore be discussed in terms of people's capabilities to function, that is, on their effective opportunities to undertake the actions and activities that they want to engage in, and be whom they want to be. These beings and doings which Sen refers to as achieved functionings; together constitute what makes a life valuable. Functionings can include; resting, being literate, being healthy and working among several.

The distinction between functionings and capabilities is between achievements and freedoms. But it is important that people have the freedoms (capabilities) to lead the kind of lives that they want to lead, do what they want to do and be the person they want to be (Robeyns 2005: 95). The key to development therefore, is to build these capabilities through commodities such as ICTs (Oxoby 2009 in Thapa et al 2012. 6). Internet and mobile phone use in this study is hypothesized as a means to building individual freedoms and capabilities to achieve functionings. Therefore the study set out to test the Capability Approach through assessing internet and mobile phone use among the urban poor in Kawempe in order to evaluate whether these two ICTs enhance individual capabilities and freedoms to influence their social and economic development which directly responds to research question three.

According to Robeyns (2005: 99), the relation between a good/ commodity and the functionings to attain certain beings and doings is influenced by three types of *conversion factors*. That is; *personal conversion factors*, *social conversion factors* and *environmental conversion factors*. This study only took into consideration the *personal conversion factors* (Robeyns 2005: 99) that influence how an individual can influence the characteristics of a commodity in this case the internet and mobile phones, into a functioning. These *personal conversion factors* can include sex, reading skills, intelligence, and physical condition among others that can either facilitate or impede a functioning. In this way, the study responds to both research questions three and four.

## Chapter 3: Methodology

This chapter presents the methodology of the study. It discusses the study's research strategy, research design, research methods and also methods of data analysis.

### 3.1. Research Strategy

A research strategy is a plan of action that gives direction and enables research to be conducted systematically (Ferguson 2005). It is in other words the “general orientation to the conduct of social research” (Bryman 2008: 22). One does not simply pick any research strategy but the chief aim for adopting a particular research strategy is to achieve the best procedure for addressing a research problem and also efficiently responding to research questions. There are also a number of factors that influence the choice of a research strategy as discussed below;

Bryman (2008: 30) states that the decision to simply adopt one or the other strategy does not efficiently facilitate a research. This decision depends on how research will be carried out and data analysed and also the choice of research design and research methods. It is important to note that the selection of a research strategy does not determine the kind of research design that is to be adopted because the logic of any research strategy can be implemented using a variety of research designs (Blaikie 2009: 106). Qualitative and Quantitative research form the different types of research strategy. They both represent their own distinctive features in terms of their relationship with theory, epistemological and ontological orientation. So a researcher's choice of a single strategy will depend on these features. These distinctions are usually not clear cut as studies can combine the characteristics of the two strategies (Bryman 2008: 23).

The choice of a research strategy can depend on the epistemological stance a researcher considers important in addressing the research problem. For example, it could be, explaining human behaviour against an external reality (*positivism*) or understanding human behaviour from the point of view of the actors and entities of study (*Interpretivism*) (Bryman 2004 in Rogan 2009: 32). The choice of a research strategy could also be based on ontological concerns, that is; whether a researcher would like to view social entities as having an existence independent of social actors (*objectivism*) or social entities as being in a constant state of revision, subjective and constructed by social actors (*constructionism*) (Bryman 2008:

18-19). Also the choice of a research strategy can depend on whether a study is being conducted to test theory (*deductive*) or to construct and generate theory from the data (*Inductive*) (Bryman 2008: 9-22). For this study, the choice of the research strategy was based on *interpretivism* and *constructionism* considerations that were seen to best respond to the research questions further elaborated below.

### **3.1.1 Qualitative Research Strategy**

This study primarily embraced a qualitative strategy for its epistemological and ontological orientation. Bryman (2008: 366) describes qualitative research as a research strategy that usually emphasizes words rather than quantification in data collection and analysis. The crux of the study is to understand the various uses of the internet and mobile phone that the urban poor undertake in order to establish whether there are any development implications in those uses. Therefore a qualitative strategy was considered important for this study because it enabled the use of semi-structured interviewing with open ended questions that enabled the participants to give unbiased in-depth answers (CSR 2012) not only of what they make use of the internet or mobile phones but also why they make certain choices and how they decide to make choices for internet and mobile phone use. I therefore had a rich and elaborate dialogue with the participants which yielded detailed information. This detailed information was needed in order to properly respond to the research questions because I could not for example assume all the possible ways how the urban poor in Kawempe access the internet or mobile phones, or the different uses they undertake for the two ICTs which is usually a case with quantitative strategies where the researcher gives respondents some options to choose from. In that way, the analysis was not limited to only a few options in establishing whether their use can be socially or economically developmental and the challenges they face with internet and mobile phone use.

The respondents were studied in their social setting to interpret what the various uses they make of their internet and mobile phones in their everyday activities implied on their social and economic development. This thus can be described as an epistemological position that is *interpretivist*, where the understanding of the social world is through the examination of the interpretation of that world by its participants (Bryman 2008: 366).

The research also assumed and hypothesized that actors could influence the outcomes of their social and economic development through their everyday various uses of the internet and mobile phones. This can be described as an ontological position that is *constructionist*, implying that “social properties are a result of the interactions between individuals, rather than phenomena ‘out there’ and separate them from those involved in its construction” (Bryman 2008: 366).

The qualitative research was thus seen as a way for the research to explore in depth a range of issues pertaining to internet and mobile phone use, give room for the generation of ideas among participants and also enable the testing of theory and also building on theory (Bryman 2008: 373). Considering that Qualitative research is attached to an *inductive* orientation of generating theory from data, it is also possible to still test theory using qualitative data- a *deductive* disposition from the quantitative strategy (Bryman 2008: 373). Silverman (1993 in Bryman 2008: 373) saw this as an opportunity for the growing maturity of the qualitative strategy. Thus, qualitative data was used to test both Roger’s (2003) ‘*Diffusion of Innovations*’ theory and Sen’s ‘*Capability Approach*’ theory and also build on these two theories.

Besides the theory, epistemological and ontological orientations that were a major consideration for choosing a qualitative research strategy, issues of time and availability of resources were also considered. Given the limited timeframe and resources for the study, a qualitative strategy was considered most suitable for conducting solid work that would otherwise have been compromised with for instance mixed methods that require a lot of work and time. While these factors are more directly linked to research methods, research methods directly evolve from research strategies (Blaikie 2009: 108).

### **3.2. Research Design: Case Study**

A research design gives a framework for the collection and analysis of data (Bryman 2008: 31). A case study design entails a detailed and intensive analysis of a single case (Bryman 2008: 52). It thus involves a detailed contextual analysis of a limited number of events and their relationships (Soy 1997). This study focused on a case of the urban poor living in one of Kampala’s divisions, Kawempe and an in-depth exploration into their uses of the internet and mobile phones was conducted to elucidate their development impacts. The case was chosen

because it exemplifies a broader category of cases of internet and mobile phone use among the urban poor and is also very suitable for answering the research questions (Bryman 2008: 56).

### **3.3. Research Method**

A research method is a technique for collecting data (Bryman 2008: 31). It therefore involves specific instruments or tools for collecting data. Data was collected over a period of one month (from mid-January to mid-February) and the study incorporated the triangulation of qualitative methods like semi-structured interviews, focus group discussions and participant observation in order to strengthen the research findings and conclusions. In other words, the triangulation of qualitative methods during data collection increased my confidence as a researcher (Bryman 2008: 379) in the findings. Data was collected from 84 respondents through the use of qualitative methods like semi-structured interviews, focus group discussions, and participant observation.

### **3.4. Qualitative Methods**

#### ***3.4.1. Semi-structured Interviews***

Semi-structured interviews were used and the researcher orally questioned individual respondents while at the same time taking notes during interviews (Carman 2004). During the interviews, I probed respondents and pursued areas of interest and profitable leads for the study. This enabled the collection of in-depth information, exploration of respondents' spontaneous remarks (Carman 2004) and getting an insight into the actual internet or mobile phone user's interests, intentions and expectations. It enabled the collection and generation of an intensive, detailed examination of the case (Bryman 2008: 53). This method thus enabled a logical inquiry into respondents' uses of the internet and mobile phones that facilitated the *interpretivism* orientation of the research. I was also able to identify the extent to which these two ICTs are available to respondents and explore how they use them. Semi-structured interviews were also used because some respondents in the community were illiterate and would have had complications with for instance self-completion questionnaires mostly used in quantitative research. Also, because of the flexibility of semi-structured interviews, respondents were able to pursue issues of particular interest to them (Bryman 2008: 438) but these I had to keep within the study context.

## **Major Interviewees**

- Local community leaders
- Community members
- Telephone kiosk owners and users
- Internet cafés: observed internet usage, interview users and owners

### ***3.4.2. Focus Group Discussions (FGDs)***

To highlight on interview findings, two focus group discussions were conducted; one for female respondents in Bwaise Kazo zone and another for male respondents from both zones of Katanga Kimwanyi A and B. In these interviews, the researcher concurrently interviewed several participants which facilitated a free discussion about the topic of study. The homogeneity in these groups based on gender was intended to capitalise on the participants' shared experiences as well as enable them to freely talk about their shared experiences (Wong 2008: 257) regarding mobile phone and internet use. Focus group discussions enabled me to obtain a more in-depth collective exploration (Bryman 2008: 473), insight into a wide variety of ideas and gain an understanding of group ideas on mobile phone and internet usage. In one-on-one interviews, respondents were probed to clarify on responses and acquire more data but in focus group discussions, some new events arose. Some respondents challenged information from others in the focus group discussions leading to arguments that yielded data that was left out in semi-structured interviews. Having prior experience in conducting focus group discussions enabled me to moderate the discussions well and outspoken respondents were contained within an acceptable limit while the soft spoken were encouraged to participate.

### ***3.4.3. Participant Observation***

During the period of the study, the researcher took off some time to watch people, talked to them about what they do and think so as to see how they understand their world (Delamont 2004: 218). The researcher took notes during activities in communities, internet cafés, and telephone kiosks but made sure this did not make participants self-conscious (Bryman 2008: 417) by taking time off to make notes elsewhere. Participant observation was used as a complimentary method to get an objective and qualitative source of data for understanding



and interpreting findings from focus group discussions and individual semi-structured interviews.

### **3.5. Selection of Units**

The selection of units in qualitative research can be a way of sampling or the selection of for instance people, organizations, and departments among others that are in direct reference to the research questions being asked (Bryman 2008: 375). The study involved the selection of three parishes out of the 19 parishes in Kawempe division; that is; Bwaise III, Kazo Angola and Wandegaya. These parishes were chosen purposively for their concentration of slums and also for the study purpose. From Bwaise III, one village/zone, Bwaise was selected. In Kazo Angola, one village/zone, Bwaise Kazo was selected. From Wandegaya, two villages were selected, Katanga Kimwanyi zone A and Katanga Kimwanyi zone B. All these villages were selected purposively to respond to the research questions of the study. Only these parishes could be covered by the study to work within the available resources.

All participants from the villages were selected non-randomly. First, *snowball sampling* was used to identify all the internet users in the study area. Since these were very few and very hard to come by, I had to ask from internet users in the area to identify other fellow internet users. Also during snowball sampling, these participants were found to access mobile phones. Therefore as Bryman (2008: 184) argues, these participants were located through established social relations. This is because; those that use the internet cafés to access the internet were able to identify other users in the same area. I also used local leaders to help identify internet users they know in the community. Also *convenience sampling* was used and those found to be relevant to the study were not ignored.

For the local leaders, internet café and telephone kiosk owners, these were selected purposively due to their relevance to answering the research questions (Bryman 2008: 415). The following table outlines the research methods employed and the number of investigated respondents.

**Table 3: Overview of Methods, Participant Selection and Number of Interviews**

Selected Units			
Method	Actor	Number of Selected Participants/ respondents	Number of interviews per respondent
<b>Semi-structured Interviews</b>	Bwaise community	9	1
	Bwaise Kazo community	9	1
	Katanga Kimwanyi A community	13	1
	Katanga Kimwanyi B community	13	1
	Internet café owners	2	1
	Telephone kiosk owners	2	1
	Mobile money agents	2	1
	Bwaise local leaders	2	2
	Katanga local leaders	2	2
<b>Focus Groups</b>	Katanga men's group	16	1
	Bwaise women's group	14	1
		<b>Total= 84</b>	<b>Total=60</b>

**Source:** Field returns

### 3.6. Data Analysis

Data was analyzed within the analytical induction approach which is an interpretive strategy that seeks universal explanation of the phenomenon in question (Denzin 2007). In this study, qualitative data was used to test the two theories of '*Diffusion of Innovations*' by Rogers (2003) and Sen's '*Capability Approach*' in the area of Kawempe. I identified both Rogers' DoI and Sen's CA as important in responding to my study research questions and the identified important elements in each of the two theories were put to test in the research context during data collection. Data was analysed around a phenomenon and emerging aspects from the data were also analysed and used to test and examine the application of these

two theories in the context of Kawempe in the selected zones. The analytical induction approach as introduced by Znaniecki in 1934 follows the search for and analysis of deviant cases after a preliminary theory/hypothesis/pattern or model has been developed (Jupp 2006). The research thus seeks universal explanations of phenomena by pursuing the collection of data until there is no case inconsistent with a hypothetical explanation (deviant or negative case). Simply put as, “testing hypotheses in hindsight” (Denzin 2007).

In this approach, the researcher seeks universal explanations of phenomena by pursuing the collection of data until no case is inconsistent with a hypothetical explanation (deviant or negative cases) of a phenomenon are found (Bryman 2008: 539). The deviant case is usually the starting point for testing theories and this can be characterised by the systematic interpretation of events, generation of hypothesis and also testing them (Jupp 2006). Analytic induction follows an iterative process, hypotheses are created upon examining cases, new cases are examined, hypotheses are examined in such a way that cases are examined, hypotheses are modified in such a way that cases are either consistent with the explanations or are placed outside the domain of the study. Each case is individually examined against the hypothesis, in order to validate or reject the assumption (Jupp 2006).

Information from semi-structured interviews and focus group interviews was transcribed from audio recordings and field notes. Interview responses were recorded and summarised after interviews in order to keep track of important insights. Transcription was done to systematically, consistently organize and analyze textual data (McLellan 2003: 64). Data was categorized, sometimes tabulated and recombined in order to address the research objective. However the quality of transcripts depends on the researcher’s ability not to omit vital information (Bryman 2008: 455). So I stayed open-minded and data was examined using many interpretations so as to find linkages between the research objective and the outcomes with reference to the research questions.

Coding was also used and it entailed reviewing transcripts and field notes and giving them labels to parts of potential theoretical significance to the social world of participants (Bryman 2008: 542). The data was organized into meaningful units coded with short phrases that signified a category (McMillan 2010). Semi-structured interviews generate in-depth information resulting in large quantities of narrative data which needs to be critically

examined, summarized and synthesized for analysis (McMillan 2010). The codes also pulled together and categorized discrete events and statements identified in the data (Charmaz 1983: 112 in Seidel 1998: 4). Each segment was inductively assigned a code to refer to a theme that emerged during the interviews and then systematic comparisons were made within and between the labelled data.

### **3.7. Ethical Considerations**

Ethical considerations are critically important for any research because the effectiveness and credibility of a research cannot be reached without carefully considering ethical standards (The Research Council of Norway 2007). Ethics in research refer to the principles (Bryman 2008: 118) and standards designed to ensure the safety of research participants and to prevent irresponsible research (University of Minnesota 2003: 6; Morrow 2009: 1).

In this study, I made sure that I get the consent of all the participants. None of the participants was forced in any way whatsoever to participate in the study but they all engaged in it voluntarily. This was done first by me introducing myself to the respondents and asking for their participation. I also explained the purpose of study so that respondents were not misled or uncertain of the purpose of the research but agreed to participate fully understanding the aim of the study. Those who turned me down were not coerced in any way to participate but were simply left out of the study.

In order not to exclude any identified relevant respondents from the study due to issues of communication (SRA 2003: 37), the study was carried out mostly in Luganda, a local language familiar to most people. Also English was used for some few of the respondents that did not understand Luganda.

Ethically a researcher is supposed to ensure that the research does not affect or bring risk of harm to the respondents in any way (Trochim 2006: para 3; Carman 2004; Bryman 2008: 118). There were cases where I had to seek permission from some female respondents' husbands. This is because the women wanted to know if their husbands consented to their participation in the study and that there would be no problems after I left. As a researcher, I am supposed to protect my respondents and see that no harm comes to them from the research. So I also had to explain the purpose of the study to the women's husbands who gave me permission to interview their wives.

Participants' confidentiality and anonymity in this study is highly protected as respondents' names were not considered during interviews and all the information disclosed here in the thesis was permitted.

### **3.8. Limitations**

Defining and measuring the urban poor is not straightforward and it was hard to get the definite urban poor because people are sensitive to reveal their income or expenditure. Although the study was carried out in the most poverty stricken slums of Kawempe, not everyone found in the slum was living below the established two dollars per day. Even when their monthly earnings seemed low, daily expenditures for some of the respondents indeed most of the respondents slightly exceeded the minimum two-dollar expenditure per day. The urban poor may be defined as a lower class on the basis of income, occupation and social status (Chung and Eichengreen 2004: 141) in urban areas. For the study to be more inclined to their incomes considering the definition of the poor as those living under the set two dollar limit made it quite impossible to identify the 'real' urban poor. So it was generalised and for purposes of the study, the urban poor were also equated to all those living in informal settlements or slums but it should not be assumed that all people living in slums or informal settlements are poor. But the over-lap between the urban poor and slum dwellers is so great that for this study, it can be assumed that for the majority of cases, they are one in the same.

Although my safety was compromised a few times during the first days of fieldwork in the slums of Bwaise, I learned not to travel with some valuables like a mobile phone, camera and laptop and I carried no handbag to attract the attention of potential bandits. In the slums of Katanga Kimwanyi zones A and B, I hired a guide to walk with me in the area, a well respected youth leader. So it was much easier in those zones to carry out fieldwork.

## **Chapter 4: Presentation of Empirical Findings**

This chapter presents the empirical findings from the fieldwork. Findings reflect aspects of the two theories under consideration for the study explored in the local context. For the DoI theory, the study field tested the eight PCIs presented by Rogers in order to determine if they influence internet and mobile phone adoption or access and use in Kawempe. For the CA, the study tested whether internet and mobile phone use among the urban poor enhances the urban poor's freedoms and capabilities to influence both their social and economic development. The findings also highlight fragments from the literature review. This is done in order to be critical and strengthen arguments in the study findings. Additional scholarly literature introduced in this section other than that in the literature review or previous chapters was intended to strengthen on arguments of emerging important aspects of the study not discussed earlier.

The chapter starts with presenting fieldwork findings on the economic and social context of the study area to give a clear insight regarding these two forms of development in Kawempe. It then presents a section reflecting on the findings on how the urban poor in Kawempe access the internet and mobile phones. A discussion of how the urban poor make use of the internet and mobile phones they access then follows. It is from these findings that the subsequent chapter gets a foundation to establish an analysis of whether the urban poor's use of the internet and mobile phones in Kawempe impacts their social and economic development. The last part in this chapter discusses the challenges of internet and mobile phone use among the urban poor in Kawempe.

### **4.1. Case Description of the Area**

#### **4.1.1. Economic Context of Study Area**

It is important for the study to understand both the social and economic context of the area of study. It would be salient to establish both the economic and social context of the area of study and how internet and mobile phone use can influence these two aspects of development. The main concern here is to understand whether the end-users' particularly the urban poor's use of the internet and mobile phones can influence both their social and economic development in Kawempe. In this context, I use Sen, who views development as 'freedom'-

freedom to be and do what one values. Scholars like Oxoby (2009 in Thapa et al 2012: 6) believe that this freedom can be enhanced by commodities like ICTs; internet and mobile phones inclusive. It is important to the study for the findings to discover whether internet and mobile phone use among the urban poor enhances their freedom to influence the outcomes of both their social and economic development. Indeed, also the nature of both the economic and social context of a specific setting can influence both the adoption and rejection of use for both the internet and mobile phones. Take for instance, considering that internet use requires basic e-literacy skills, those without such skills or those that are illiterate may not be able to use the internet. In fact, this can create an individual attitude or perception that can influence adoption/rejection choices for the use of a particular ICT whether internet or mobile phone, based on how easy or difficult it is to use such an ICT better described by Rogers (2003) PCI-*'ease of use'*.

An understanding of the local economic context is therefore important for the study. In Kawempe, majority of the jobs are in informal employment<sup>7</sup> and majority of slum dwellers are employed in the informal sector. For many slum dwellers, there is limited access to formal job markets due to stigmatization, discrimination and geographical isolation hence majority of them are employed in the informal sector (UN Habitat 2003: vi & 58). From focus group discussions, semi-structured interviews and the researcher's observation, it was established that majority of the economic activities carried out in the areas of Katanga, Bwaise A, Bwaise Kazo and Katanga Kimwanyi zones A and B can be categorised in the informal sector. Activities such as, washing clothes, running small retail shops, small restaurants, bars, small scale brewing, making and selling bathing sponges, and engaging in motorcycle cycle transport commonly known as *'boda-boda'* among others, were identified as the major economic activities among the study respondents in the community. Considering that most of these economic activities are run on a relatively, small scale, so are the earnings from them.

Participants were asked in semi-structured interviews to estimate their monthly earnings from these economic activities and it was discovered that, the average person among the

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<sup>7</sup> Informal employment is made up of jobs with little or no formal and official control. These are usually unregistered and unregulated small-scale activities that generate income for the urban poor (Bernabe 2002: 6)

respondents earns approximately 173,900 Ushs per month with monthly earnings going as low as 20,000 Ushs. The main reason for the existence of such informal employment in the area of study is attributed to the fact that there are high illiteracy levels that cannot facilitate formal employment among majority of the respondents in Kawempe. The UN Habitat (2003: 68) argues that informal employment in slums offers dwellers with limited education, skills or economic resources a form of employment at very low wage rates. However, even the few that are educated in Kawempe tend to take on informal employment by starting up their own small-scale businesses due to failure to find jobs in the formal sector.

In a men's focus group discussion in the zones of Katanga, one respondent noted that,

*"...people in this area, work to get food for the present day. They take on any job and different kinds of jobs everyday in order to get food for the day".*

**Table 4: Forms of employment among study respondents by village**

Village	Formal Employment	Informal Employment	Unemployed
Bwaise	2	7	0
Bwaise Kazo	0	10	1
Katanga Kimwanyi Zone A	0	11	4
Katanga Kimwanyi Zone B	2	8	5

**Source:** Fieldwork returns

The above table highlights the forms of employment undertaken by the different study respondents investigated in Kawempe. Very few of the respondents are employed in the formal sector and these have had some form of education at either tertiary or university level. On the other hand, majority of the respondents are employed in the informal sector. Some respondents are unemployed and in a semi-structured interview, a woman noted that;

*"I am not employed. My husband provides for everything we need in the home. He gives me money every day for the daily expenses in the home and it is from this money that I also save some money of my own."*(Interview).

It is not uncommon in the Ugandan context for women to be economically dependent on their male spouses or kin in a home (Ellis et al 2006: 22).



## **4.2. Social Context in Kawempe**

Focus was directed to two aspects of social development, that is: health and education. Interest was also in establishing whether internet and mobile phone use among the urban poor in Kawempe impacts these two aspects of their social development. The findings below are of the health and education situation in the area of study. It will be important to understand whether the urban poor adopted and use the internet and mobile phones for enhancing their social development or how their use of these two ICTs influences their social development.

### **4.2.1. Education in Kawempe**

In a focus group discussion, it was identified that in Bwaise and Bwaise Kazo, there are many schools in the area and education is considered very important to the locals. Although most of the adults are illiterate or semi-illiterate, education for the younger people or children in the community is considered crucial. The Local Council 1(LC1) chairlady of Bwaise noted that,

*“...in this area, people take education very seriously and they all take their children to school. For those that do not, we the local leaders intervene although that is also a very rare case.”* (Interview).

In the zones of Katanga Kimwanyi zones A and B, most of the adult respondents interviewed do not consider education so importantly except those with children that they send to school. The researcher did not observe any school in the area and respondents said their children and other students go to schools in neighbouring areas.

When relating education uses to the Diffusion of Innovations theory, none of the respondents considered any of Roger’s eight PCIs in relation to education when adopting to use the internet or mobile phones. The culture of e-learning or mobile phone use in education is trivial and very low in the study area. For those that use the internet or mobile phones in education, this use was not originally intended but later evolved with continued use of the internet and mobile phones. For instance the perceived ‘*result demonstrability*’ derived from both the internet and mobile phone is mostly directed towards maintaining communication with family and friends. Considering that majority of the adult respondents are illiterate or semi-illiterate, the use of both the internet and mobile phones in education is not compatible to their needs. It is also clear to see that most respondents have no education needs since they are not in school or participating in any form of education. It is only the younger people in school who, from their continued use of the internet for other purposes, eventually found the

internet and mobile phones as ‘*compatible*’ to their education needs and these are also very few in the area.

From this, it can be observed that while an individual might adopt to use the internet and mobile phone for a single or a combination of purposes, other uses too for these innovations can emerge. Some respondents for instance adopted the mobile phone because they only perceived it as a means to communication, but later learned that they could use it to coordinate their businesses and some younger people in school, their education. It was not something that was initially considered or intended but it later emerged due to continued use of the innovation and interactions in society.

In relation to the Capability Approach, for the very few that use both the internet and mobile phones for education purposes, they acknowledge these two ICTs to having enhanced their capabilities towards facilitating their education. Mobile phones are used to coordinate education issues for both those in school and those that are educating their children. The internet also serves as an education research base for those in school. It should be noted that those in school and do not use the internet were found to either lack or have limited internet skills and hence perceive the internet as not user friendly. In Sen’s Capability Approach, e-illiteracy can be considered a *personal conversion factor* that in this context hinders the use of the internet for education purposes among those in school and in general most of the investigated respondents.

#### **4.2.2. Health in Kawempe**

The World Health Organization (WHO 2012a: para 1) defines health as, “a state of physical, mental and social well-being and not merely the absence of disease or infirmity”. Good health can be both a means and an end to development. Health is central to human happiness and wellbeing and is an important contributor to economic progress, as healthy people live longer and are more productive and also save more (WHO 2012: para 1). Health is considered an important aspect of social development by majority of the study respondents but this is mostly only limited to physical well being or lack of illness. Houses are overcrowded and from observation, sanitation is poor in all the zones. In Katanga Kimwanyi zones A and B, only one toilet was observed within the perimeter shared by several households. There is also poor waste management in the area. In Bwaise, the situation is the same with overcrowded houses

and very poor sanitation and although there are more toilets than in the zones of Katanga, these are also in a poor state. In a semi-structured interview, it was noted that there are public campaigns done to educate community members about sanitation matters in order to improve health issues in the area.

From observation, numerous clinics were also seen in the area and during semi structured interviews and focus group discussions, respondents noted having no problems getting medical services because of the availability of these clinics.

*“When I am sick, I simply walk to the clinic, there are very many clinics in this area so I can always get medical services”* (Interview).

The National referral hospital, Mulago Hospital, is very close by to Kawempe. However, most respondents do not always go there for medical services and prefer private clinics because services are much faster to access in clinics than in the main hospital.

None of the respondents admitted to having adopted the internet or mobile phone in the area for health purposes although there are some that use both these ICTs for health purposes. Majority do not perceive the internet or mobile phones as very important in making a major impact on health development in the area. In fact, their perception of the health ‘*result demonstrability*’ that can be derived from using both the internet and mobile phones is very low. Besides, there are no internet run health initiatives in the area which would also be quite hard to implement considering that majority of the respondents are illiterate with minimal or no e-literacy skills. In semi-structured interviews, it was discovered that there is an SMS health initiative run on mobile phones in the zones of Katanga, but majority of the community members are not aware of it or do not perceive it as important. They consider these health SMSs on mobile phones as expensive and some cannot effectively use all the functions on their mobile handsets due to illiteracy.

When comparing the internet and mobile phones in terms of health use, the mobile phone is perceived with a higher ‘*relative advantage*’ among those very few respondents that use these ICTs for health related issues in the community. Mobile phone users at least see the mobile phone helping them in making doctors’ appointments and coordinating some minor health aspects like making health inquiries. For these participants therefore, the mobile phone to some extent enhances their capabilities to coordinate some health issues although not very

many. For some internet users, there is an insignificant use for the internet in health mainly focused towards getting health information. Well as, some authors like Elder and Clarke (2007 in Rashid and Elder 2009: 8) have been optimistic about the role of ICTs in improving health or facilitating health development due to the fact that mobile phones are more accessible even by the poor, this is not the case in the Kawempe. People's capabilities towards health are not to a big extent facilitated by the internet or mobile phone use in the area. Capabilities towards health development through the internet and mobile phones in Kawempe are very low.

#### **4.2.3. Other important social issues in Kawempe**

Besides education and health, respondents were quick to identify the issue of social capital as very important to them. Although the concept of social capital has no commonly agreed upon definition, it is broadly referred to as "the resources embedded in social networks for the mutual benefit of parties within the networks" (Yang et al 2009: 184). Social capital is not the focus for discussion in this study but was considered very important among the respondents and worth mentioning as its role in development is crucial. According to the World Bank (2011a), increasing evidence shows that social capital is critical for societies to grow economically and for development to be sustainable. When enhanced positively, social capital can improve project effectiveness and sustainability by building a community's capacity to work collectively to address common needs, foster greater inclusion, cohesion, transparency and accountability. To the respondents, staying in touch with family and friends is very important because they depend on each other.

*"I have to take care of my family back in the village. My father is sick and I have to pay for his medical bills. I do not have to stay with him all the time but I can send money a few times, call occasionally and also go there. This is expected of me as a daughter"* (Interview).

In fact, in the study, respondents saw the mobile phone as an enabler of social capital that helps facilitate the bond among family and friends through frequent interactions and communication. Therefore the mobile phone is enhancing these people's capabilities to grow and strengthen their social capital. Majority of the respondents admit to having adopted the use of the internet and mobile phones in order to communicate with family and friends. So whichever way, they access the mobile phone, most of them are driven by the fact that they

want to stay in touch with their family and friends. With the mobile phones, Roger's first six PCIs have a significant impact in facilitating their adoption and use in terms of communication purposes with family and friends. That is; '*relative advantage*', '*image*', '*compatibility*', '*ease of use*', '*visibility*' and '*results demonstratability*'. For the internet, Roger's two PCIs have a significant impact in influencing the adoption and use in terms of communication purposes with family and friends. That is; '*relative advantage*' and '*results demonstratability*'.

Respondents consider mobile phones as mostly enabling their freedom to stay in contact with their friends and family hence building social capital. This was attributed to the fact that majority of the people have access to mobile phones because they are easy to use. On the other hand, lesser access to the internet or its facilitation of social capital is attributed to the fact that there is limited internet or computer ownership and use among the local people due to illiteracy.

### **4.3. How the urban poor in Kawempe access the internet and mobile phones**

The findings in this section respond to research question one in light of the Diffusion of Innovations theory, the Capability Approach and the literature.

#### **4.3.1 How the urban poor in Kawempe access the internet**

In semi-structured interviews and focus group discussions, respondents were asked to describe how they access the internet and the findings indicate very few respondents accessing the internet. Access to the internet is mainly through internet cafés with very few people owning a modem. Some people although very few, access the internet at their work places and these are mostly professional workers. Others access the internet on their mobile phones.

Through the lens of the DoI theory, access to the internet among the studied respondents is driven mainly by the perceived '*results demonstratability*' that can be derived from the internet. Some view the internet as a means for communication with family and friends through emails, facebook among others especially with those abroad and some in the country. Others see the internet as having a '*relative advantage*' over the mobile phone in especially being a cheaper means to communicate with people abroad. These two PCIs play a major role

in facilitating internet adoption in the area with the other PCIs playing a very minor role. After individuals decide to start using the internet, regarding a particular reason they value or motivation, then they find a means of access. Considering that individual ownership of a computer and internet is low and costly in most developing countries (Sharma and Sturges 2007: 1; Cranston et al 2011: 55; UN and ITU 2011: 1), so is the case in Kawempe. The forms of internet access in Kawempe are different among the respondents; majority find access in internet cafés, very few use their mobile phones, while still very few access the internet from their places of work. There are some few who can afford their own modems but this is a rare scenario as some of the respondents do not actually know what a modem is.

**Figure 5: An Internet Café in Bwaise**



**Photo by:** Author (2012)

Besides affordability of personal internet ownership being a barrier to internet access, illiteracy is also a major hindrance to the adoption of the internet among most respondents in Kawempe. It should be noted that IT illiteracy is generally high in the country (MoICT 2010: 1) and in Kawempe, the lack of internet access is mainly attributed to the inability for people

to use it caused by a lack of e-literacy skills and illiteracy or semi-illiteracy. This applies to Roger's PCI of '*ease of use*', that is so low in this case as some respondents in Kawempe cannot use or acknowledge to having failed to access the internet because they lack even the most basic skills to use the internet. In view with Sen's Capability Approach, the lack of e-literacy skills and illiteracy are major *personal conversion factors* that thwart internet use and its access in this area.

*"I hear people talk about the internet, but I do not know what it is because I am not educated. That is something for the educated. Even if I pass by an internet cafe, I cannot go in because I will not know how to use the computer or the internet for that matter"* (Interview).

The study found that internet access was mainly among the educated with computer skills unlike the uneducated. As Cranston et al (2011: 53) observed, internet access in developing countries is mainly found among "the [...] well educated", so is the case in Kawempe. Sometimes, illiterates and those without computer or internet skills in Kawempe shun using the internet considering it as only for those that are literate or with computer skills and this is usually the younger educated people in the community. This affirms Warschauer's (2003 in Haseloff 2005) argument that cognitive barriers like low literacy rates and the lack of e-literacy skills impede the use of the internet and other ICTs in general. Also, considering that the internet is not delivered in Luganda and popular local language among majority of the people in Kawempe, then its use is low because most of the investigated participants are not conversant with the English language used on the internet. On the other hand, even those that lack internet skills or computer skills still can access the internet. Findings indicate that they simply ask someone who can use the internet to help them do what they want online.

*"I am not educated and I do not know how to use the internet but when I want to use the internet, I ask my son to help me because it is the cheapest way for me to communicate with my son living abroad"* (Interview).

The research also observed that in the villages of Katanga Kimwanyi zones A and B, internet cafés accessible to the people were not within the slum itself but approximately 100 metres away and serving university students in nearby hostels. Most existing cafes in the area, serve university students and a few internet users from Katanga slum. In Bwaise and Bwaise Kazo,

it was also observed that the internet cafés in the area only existed along the main roadside and with none inside the slum itself.

#### **4.3.2. How the urban poor in Kawempe access mobile phones**

Early scholars like Rashid and Elder (2009: 2) and Khalifa and Cheng (2002: 1) have indicated, that unlike the internet, the mobile phone has a bigger penetration in developing countries compared to the internet, so is the case in the community of Kawempe. Mobile phones are accessed by most of the studied participants with at least majority owning their own handsets. To the respondents, it is considered crucially important for one to have access to a mobile phone and even some few respondents that were found without their own handsets at least utilize readily available public pay phones in the community for telephone services or sometimes share with their friends and family.

It is important to understand why mobile phone access is considered important among the urban poor in this community and Roger's first six PCIs provide a concrete explanation for the adoption and enthusiasm to access mobile phones the way they do in the community.

First of all, some respondents in the community perceive the mobile phone as the most affordable ICT for them to use especially for communication with family and friends and also communication to coordinate particularly their economic activities. The mobile phone is thus perceived with a higher '*relative advantage*' compared to the internet. In fact, between the two ICTs, the mobile phone is the most widely used for this purpose and the reason for its adoption. For these respondents, most of them own their own handsets and some use public pay phones in the area. Compared to the internet, respondents find individual ownerships and mobile phone access cheaper than personal internet access and ownership. To some and in fact the majority of the respondents, mobile phones are much cheaper to buy because several people turn to second hand handsets or buy mobile phones from China although they complain of their poor quality.

The mobile phones are also considered '*compatible*' with the needs of some respondents. For the people that need to communicate with family and friends or business partners, the mobile phone is viewed as an enabler of this. These people also perceive the mobile phones with a high '*result demonstrability*' in facilitating communication among friends and family. In view of the Capability Approach, the mobile phone is thus seen to enable these people's



capabilities in communicating with their family, friends and business partners. Indeed, some respondents perceive the mobile phones as being able to help them achieve certain aspects of both their social and economic lives. For example some perceive the mobile phone as enabling communication between and among family and friends and at the same time work colleagues. Both Roger's '*compatibility*' and '*results demonstratability*' PCIs in this case facilitate mobile phone adoption that takes various forms of mobile phone access, like; individual ownership of a mobile phone handset for those that can afford it, use of public telephones, and sharing mobile phones among some respondents in Kawempe.

During both semi-structured interviews and focus group discussions, respondents revealed that mobile phones are actually accessible to all people and if not all at least the vast majority in the community. This is because, to majority of the respondents, the mobile phone is considered an easy to use ICT when compared to the internet. So the '*ease of use*' for mobile phones among the respondents in Kawempe has facilitated their '*visibility*' in the community. Mobile phones are everywhere in the community and one can always buy themselves a handset easily from shops in the area and in town if they can afford it. It was confirmed in a focus group discussion, that mobile phones are very accessible and readily available to all people in Kawempe and most people if not all, have access to the mobile phone.

*"Everyone has a mobile phone in this community because they are very easy to use. Even those who did not go to school have mobile phones. Even young children in primary seven have mobile phones. Mobile phones are in every household in this community."* (Women's focus group discussion).

To some others, '*image*' plays a major role in influencing mobile phone adoption and these respondents usually try very hard to own their own handsets. In a focus group discussion with men in the zones of Katanga, respondents revealed that some of the people in the community buy expensive handsets just to show off among their peers. To these people, the mobile phone is considered trendy and a must have among peers an issue also identified by Rashid and Elder (2009: 4) as symbolic factors in their South Asia study of mobile phone users. The '*trialability*' and '*voluntariness*' PCIs did not have a role in influencing neither internet nor mobile phone adoption among the studied participants in Kawempe.

#### **4.4. How the urban poor use the internet and mobile phones they access**

For this study, it was important to understand the various uses of the internet and mobile phones to the respondents in Kawempe. It was from these uses that the researcher was able to analyse whether internet and mobile phone use among the urban poor in Kawempe is socially or economically developmental and whether it influences and impacts their social and economic development. In semi-structured interviews, respondents selected from all the four zones were asked to give the various uses they considered important for the two ICTs under discussion. Also in focus group discussions, respondents were allowed to give a collective view on the various uses they made of the internet and mobile phones in the community. The discussion below follows the uses made of the internet and mobile phones among the urban poor in Kawempe.

##### **4.4.1. How the urban poor use the internet in Kawempe**

###### **I. Communication Purposes**

In both semi-structured interviews and focus group discussions, respondents were asked to state the various uses they made of their internet and the main identified use was communication with friends and family. For the majority of identified internet users in the study, that is the main reason for internet adoption because they see it as a cheap means of staying in touch with people especially those abroad. They therefore perceive this as a high degree '*result demonstrability*' that can be derived from internet use when it comes to communicating with family and friends. When viewed through Sen's Capability Approach, some respondents especially consider the internet in facilitating freedoms and capabilities in building and maintaining their social capital because they mainly use it for social purposes and social interactions. This is through staying in touch with their family and friends using email, online chat rooms like yahoo messenger and online social networks like facebook that are among the most commonly used. This communication is not only among family and friends but also among work colleagues. For these respondents, the internet provides them with a cheap means for coordinating their economic activities with partners abroad hence enabling their capabilities in terms of economic coordination.

Respondents are quick to identify a trend in internet use and access. During snow-ball sampling, it was observed that most of the identified respondents with internet access are

younger people. In both focus group discussions and semi-structured interviews, respondents noted that the majority of internet users are the young and educated with negligible internet use among the much older and illiterate. A study by Cranston et al (2011: 53) also discovered that internet use in the developing world is mostly among the young and well educated which is also a similar case in this community. Internet use among majority of the youth in the community was also mainly influenced by Roger's (2003) PCI of 'Image'. This is mainly because majority of their peers are connected or are using social networks such as facebook and it is considered trendy and important for one to have access to the internet or be a member of such online social networks.

In a women's focus group discussion in Bwaise, one respondent noted that,

*"...we consider the internet to be for young people and we do not bother to try to use it. Besides, the kind of work we do does not apply to the internet and even if we had a chance to access the internet, we do not know how to use it, most people are not educated."*

## **II. Economic Uses**

Some of the respondents use the internet in economic activities and economic related practices. For these people the internet facilitates their capabilities in running their economic activities from which they earn their livelihoods. They use the internet to communicate with business partners; mainly those abroad, coordinate businesses online and very few advertise their work online. Another important use identified among the respondents is job searching on the internet.

Some although very few have made businesses out of the internet by establishing internet cafés in the area. Various internet cafés were seen in the areas of Bwaise, Bwaise Kazo and in the outskirts of Katanga Kimwanyi zone A and B. In Bwaise, although some internet cafés had been closed down, there some others operating a few metres from the main road and some just within the proximity of the main road.

Some of the respondents especially those that use the internet to communicate with work colleagues abroad, started to use the internet because they considered it the cheapest tool through which they can optimally coordinate their businesses with their partners abroad. Viewing this in Roger's DoI theory is in line with the 'relative advantage' PCI. This can also be viewed through the 'compatibility' PCI because these respondents also identified a need to

stay in touch with their business partners abroad and some within the country in order to efficiently run and coordinate their businesses. A young man in Katanga Kimwanyi zone B said that,

*“When my boss travelled, I had to stay in touch with him because I was running the business back here and we needed to coordinate it. I could not call him all the time because it is expensive, so I started to use the internet. Although it was not easy at the start, I learned. It is much cheaper and effective in communicating with my boss”* (Interview).

To others who established business ventures like internet cafés, they consider the ‘*result demonstrability*’ to achieve economic benefits in this case to be high and such business ventures, highly beneficial to them. To Sen, individuals should reflect on their lives and have reason to value it. This is the case with those that established internet cafés because it is from these business ventures that they earn their livelihoods and have a source of employment. In a semi-structured interview, a proud internet café owner in Bwaise Kazo said that,

*“There were very few internet cafés in this area and because I wanted to serve the market of available internet users in the area, I opened up my own internet cafe. Business is good except for some challenges like power shortages that drive my customers away.”* (Interview).

The other of Roger’s PCIs in this case of economic use were not applicable because, those who use the internet for economic purposes only consider factors that can help them to gain financial benefits. For example, ‘*image*’ for the use of the internet in this case was not considered important in adopting internet use for economic purposes. Respondents were more interested in seeing economic benefits where they integrated the internet in their economic activities.

### **III. Education Purposes**

To some respondents, although very few, internet use is directed towards educational purposes like conducting online research, downloading educational documents and applying for scholarships online. These users actually admit to the internet facilitating their capabilities in education because it provides a broader platform for education research. In semi-structured interviews, it was identified that most people who made use of the internet for educational

purposes are the youth in school or are just immediately out of school. None of Roger's eight PCIs were considered in relation to educational uses when respondents adopted or started to use the internet. As mentioned earlier, most internet users view the internet for communication purposes and it was discovered in semi-structured interviews that internet educational uses just emerged in the course of using the internet for some internet users.

None of the respondents considered the internet as having a '*relative advantage*' in educational uses, or as enhancing one's '*image*' among peers for educational uses. People perceive education to be mostly obtained from school with very few considering the internet a possible educational tool. Also, some of the respondents did not consider the internet as '*compatible*' with their education needs because some are illiterate with no internet skills while others are not in school and do not consider to use the internet for anything education related when they are not in school. For most internet users, education was not a consideration when users started to use the internet. Even for those respondents in school, there is a low use of the internet in education because most of them lack internet skills and there is a generally low use of the internet in education. So in that case, the '*ease of use*' and '*visibility*' for internet use in educational purposes is limited. Some respondents are also unaware of the possible '*result demonstrability*' of the internet in education. It is after adopting the internet that some respondents saw benefits in internet use for education as the findings highlighted through the Capability Approach illustrate in the subsequent sections and chapter. The last two of Roger's PCIs; '*trialability*' and '*voluntariness*' have no influence in internet adoption and use among the urban poor in Kawempe.

#### **IV. Health Uses**

Internet use for health purposes is very low among few respondents in Kawempe. These considered searching online for health information as one of the most important uses for their internet access and acknowledge benefiting from this use. It can thus be said that these few users' capabilities are enhanced by the internet through accessing health information that some respondents admitted to practically use. Some of these respondents attributed their better health practices to the health information they access online. Although some admitted to having used the internet on one occasion or the other to search for health information, it was not considered as important and not something they would set out to do frequently on the internet. None of Roger's PCIs were considered in this case for the respondents to start using

the internet for health purposes. When it comes to health related matters, people prefer going physically to a doctor than consulting online health programmes. Besides, there are no active online health services in the area that would have helped people to influence the outcomes of their health services and the high illiteracy levels found among majority of the respondents would also challenge online health programmes. Even those that use the internet for health purposes did not consider it when they first started to use the internet but it is something that they later learned or started to do although they had initially adopted the internet for other reasons and uses, mostly communication with friends and family online and also for some others, communication with business colleagues abroad and within the country.

## **V. Other Uses for the internet in Kawempe**

Among other uses for the internet is entertainment especially among the much younger internet users. Some of the interviewed especially the youth and some students consider entertainment to be the most important use for their internet access. They engage in activities such as; playing games, google their favourite celebrities and listening to music or downloading music. These respondents are mainly driven by Rogers' (2003) PCI of 'Image'. To them, being able to play games online, listen to music or have current updates on the lives of celebrities is considered important among their peers. Majority of these young internet users find it easy to use the internet because they are literate and acquire some computer skills in school. So this kind of internet use is also facilitated by the fact that these young people are literate and find it relatively easy to use the internet compared to the illiterate or semi-illiterate members in the community, usually the much older. The literate can also access the internet on their mobile phones unlike the illiterate who may find it much harder to manoeuvre their way through the different or detailed functions on their mobile phones. An internet café owner in Bwaise Kazo during a semi-structured interview noted that,

*“The youth usually use the internet for fun. They use the internet to chat with their friends on facebook, send and receive emails and also listen to music. A few conduct educational uses but most of them just come here to use the internet for fun”* (Interview).

Some few respondents use the internet to also get news online, an issue considered important to them. These engage in activities like searching for news on political issues and others for

sports news which is also a form of entertainment and a way of staying informed when they bet on their favourite football teams for money.

One 23 year old respondent from Katanga Kimwanyi zone A, asserts that,

*“I do not know how to use the internet, but I go with a friend who knows how to use it and he helps me search for football results especially for the teams I have betted on. For me, that is the only thing I use the internet for.”* (Interview).

For these internet users, the internet is considered to have a ‘*relative advantage*’ when it comes to delivering fast information with both political and sports news especially on football. This is one of the reasons why such respondents started to use the internet. Also Rogers (2003) PCI of ‘*result demonstrability*’ was worth noting as the respondents acknowledged having started to use the internet because they saw it as a fast way to access news both local and international news. The other of Rogers’ PCIs were not considered important in this case.

#### **4.4.2. How the urban poor use mobile phones in Kawempe**

Mobile phones in the area of study are used by a larger segment of the respondents compared to the internet. The level of mobile phone access in Kawempe is very much higher compared to the level of internet access among the study respondents. This, some respondents attribute to the high ‘*ease of use*’ of the mobile telephone compared to the internet.

*“Mobile phones are everywhere in this community, they are very easy to use compared to the internet. The internet needs educated people to use it unlike the mobile phone. That is why everyone has a mobile phone and not the internet. You cannot reach most people in this community by using the internet because they do not have it and do not know how to use it.”* (Interview).

The following below are considered to be the most important mobile phone uses among respondents in the community;

##### **I. Communication Uses**

In both semi- structured interviews and focus group discussions, for the majority of the respondents, the main use for their mobile phones is communication with family and friends. To some and indeed the majority of respondents, this is the main reason that they bought mobile phones or started using them. They perceive the mobile phone with a high ‘*results demonstrability*’ of enabling communication among family and friends and as an ICT for

reducing social isolation. Staying in touch with family and friends is considered a very important aspect among majority of the respondents and mobile phones are seen to enhance freedoms and capabilities for social capital. Some other respondents identified adopting a mobile phone to communicate with business colleagues, partners and customers going away from the popular phenomenon of adopting a mobile phone to simply communicate with only family and friends. For all these respondents, the mobile phone is ‘compatible’ to their need of communicating and staying in touch with their family and friends both far away in villages and those close by, in the cities. A local brewer in Katanga Kimwanyi zone B noted that,

*“I do not have to travel all the way to Teso, but I just call my family and I can use the money I would have used on transport to buy sugar at home. It is even easy to reach my family on the mobile phone because they also have mobile phones. They simply call me when there is a problem like my father being sick. I even just send my family members money using mobile-money services on my mobile phone”* (Interview).

Mobile phone adoption for communication uses is also related to Rogers’ PCI of ‘Image’ because some respondents started to use mobile phones motivated by the fact that they had diffused through the community and almost everyone had access to them. A 20 year old man explains that,

*“Everyone has a phone, and being without one means that you will not be able to communicate with others or they will not be able to get in touch with you. These days everyone must have a phone, it is just like that”* (Interview).

Others acknowledged to having started using the mobile phone for communication purposes because of their ‘ease of use’. Compared to the internet, the mobile phone is perceived as easy to use for communication by almost everyone in the community. And because it easy to use and has diffused through the community, they can see results of communication when they want to get in touch with their family and friends, business partners and customers. Respondents say that even the illiterate or semi-illiterate can use mobile phones and that is why they have diffused much more in the community than the internet.

*“The mobile phone is easy to use, it is everywhere in this community and when I want to talk to my father in the village I can call him. Although he is not educated, he can still use a mobile phone”* (Interview).



## II. Economic Uses

Majority of the study respondents consider the mobile phone to be an important ICT tool for coordinating their economic activities. Most economic activities in the area take on the form of informal employment like; selling peas, washing laundry, selling and making bathing sponges, small retail shops and running local bars among several others. They use the mobile phone to coordinate these businesses for instance through, staying in touch with their business partners and colleagues, coordinating the supply of products for their businesses and also staying in touch with their customers. The mobile phone is thus viewed as a tool that gives them the opportunity to easily coordinate or run their economic activities in which they earn their livelihoods. The mobile phones are hence building people's capabilities to be able to effectively run their economic activities. Building capabilities is a core element in Sen's Capability Approach (Robeyn 2005: 94). That is; mobile phones give them the freedom to run their economic activities more smoothly and in turn they earn their livelihoods. In both focus group discussions, it was confirmed by respondents, that without mobile phones, people's businesses, however small, would not have run as smoothly as they do now with the help of mobile phones. Respondents have found a way to integrate mobile phone use in almost all of their economic activities. In Katanga Kimwanyi zone B, one 53 year old male respondent, a house broker, noted that,

*"Without my mobile phone, my business cannot run and my family cannot get a meal on the table. My mobile phone helps me to run my business and I cannot be without it."*(Interview).

Another 19 year old woman who sells peas in Katanga Kimwanyi zone A says,

*"I run my business on the phone. I just call my suppliers and they send me the sacs of peas on the bus. I do not have to travel to the village. This saves me a lot of time and money I would have spent on transport"* (Interview).

For some others, the mobile phone offers them an opportunity to look for jobs and also market their skills or the kind of work that they do to other people in and out of the community.

*"People in the area know that I wash clothes and I have given most of them my number. When they need me to wash their clothes, they call me to go to their homes to do their laundry and if someone new in the community needs me, the people I gave my phone number, give that person my number and they call me to wash their clothes".* (Interview, Woman 32).

For others, the mobile phone is a source of employment as they deliver mobile money services and others offer pay phone services to the community. Many retail shops and telephone kiosks plus supermarkets were observed to sell airtime cards in Kawempe. Some people opened up small kiosks to charge mobile phone batteries especially considering that electricity shortages are a big problem in the area. These people also earn some incomes from this business. From these uses, it is clear to see that mobile phones are enhancing the people's capabilities or freedoms to run and at least participate in economic activities even though these are small and in informal employment.

### **III. Education Uses**

For just very few respondents in Kawempe, one of the most important uses of their mobile phones is to obtain education information. Some students use their mobile phones to make consultations at school while for the older parents, some use their mobile phones to coordinate and communicate with their children at school and also their teachers to coordinate education related activities.

Relating to Roger's PCIs, none of them was considered important in influencing mobile phone adoption in the community in line with education uses. Most of the respondents adopted the mobile phone in relation to other uses, mostly communication purposes. Education uses just emerged with rising need among just a few of the respondents to coordinate their education activities. Although it was identified that education was considered a very important aspect of social development to the community of mainly Bwaise and Bwaise Kazo, there was limited use of mobile phones in facilitating it. Majority of the respondents prefer going to actual schools to acquire an education or facilitate education related activities rather than facilitating them on the mobile phone or the internet. They are unaware of such services like e-learning or tele-education. The few that use mobile phones to coordinate their education activities, acknowledge some results. Therefore even though this use for mobile phones is insignificant in the area of study, those respondents' freedoms to enhance education are facilitated.

#### IV. Health Uses

In semi structured interviews, respondents were asked what they considered to be the most important uses for their mobile phone; some, although very few considered obtaining health information as important. Obtaining health information on the mobile phone is not commonly done in the area, but the few respondents that undertake health uses on their mobile phones, make doctors' appointments, make minor health inquiries and consultations over the phone. One 22 year old woman in Katanga Kimwanyi, zone A, attributes the limited health use for mobile phones in acquiring health information or facilitating health issues to the fact that they have to pay for such services which they usually consider to be costly. In fact most respondents although declared that the mobile phone can help them facilitate their health in one way or another, there are no tele-health initiatives in the area and those that are available are not well known in the community. Most respondents therefore prefer going to a health unit especially when physically sick or ill.

*"I cannot use the SMS service for obtaining health information even when I need to ask something health related because those SMSs are quite expensive. Each SMS costs 220 Ushs I would rather go the doctor directly"* (Interview).

In a focus group discussion, some of the informants confirmed that many people do not importantly consider the mobile phone as a tool for aiding health although they use it in some ways especially in making doctor's appointments and minor health inquiries. But some although very few, take the time to use the SMS service to make an inquiry about health related issues.

Even with the limited use of the mobile phone in health related issues, those who take upon these uses consider the mobile phone as facilitating the coordination of some of their health related aspects. This can be therefore considered as an important aspect where the mobile phone is seen to enhance these respondents' capabilities to coordinate some of their health related issues an aspect considered important in the capability approach as it is important for people to have capabilities to function (Robeyns 2005: 94).

Considering Roger's eight PCIs, none of them seem to have influenced mobile phone adoption in relation to health use. For the respondents, mobile phone use for health purposes emerged with overtime use of the mobile phone for other purposes. Thus implying that some respondents for example adopted the mobile phone due to its '*result demonstratability*' in

facilitating communication among family and friends but with continued use, they later realized that they could start to make health consultations, or make doctor's appointments when in need of health services.

## **V. Other uses for mobile phones in Kawempe**

Other interesting findings emerged when respondents were asked what they considered to be the most important uses for their mobile phones in both individual semi-structured interviews and focus group discussions. Entertainment uses take on different forms for the respondents: for the younger people, downloading and listening to music is an especially important use. In fact, some admit to having decided to start using the mobile phone because they anticipated entertainment as a '*result demonstrability*' that would be derived from mobile phone adoption and use. Directly quoted, a 19 year old lady in Bwaise Kazo said that,

*"I started using the mobile phone because I wanted to listen to music on the radio, download songs and also listen to music on my phone. With adopting a mobile phone, I could do all this."* (Interview).

Another identified use for the mobile phones is accessing both local and international news although very few respondents do this. Others use their mobile phones to access sports information because they feel that using their mobile phones is an easy way to stay updated on sports.

Another 53 year old respondent was bold enough to report that he uses his telephone mostly to woo women. He admitted to not only doing this but alongside that, he uses his phone for business purposes. In a focus group discussion, it was acknowledged that most young people just have or get trendy mobile phones to show off and the boys were doing it as a way to get to the girls. These phones in other words enhance their '*image*' in society. Also for the younger people, accessing the internet on their mobile phones to chat with their friends on facebook is very important. For these users, they are influenced mostly by Rogers' PCI of '*image*'. Chatting with friends especially on social networks like facebook and other online chat rooms is seen by some of the respondents as a trend that is followed by everyone.

## **4.5. Challenges faced with internet and mobile phone use**

This section presents the challenges that are faced by the respondents in both internet and mobile phone use.

### **4.5.1. Challenges faced with internet use among the urban poor in Kawempe**

For most respondents, it is very expensive for one to obtain their own internet connection. Respondents argue that it is expensive to buy a modem as the prices range from 85,000 Ushs and higher. There are some users of internet cafés who complain about the high costs of using the internet and these perceive the internet with having a less '*relative advantage*' in economic terms when compared to other ICTs like the mobile phone that are perceived to be much cheaper to use. However, there are also some respondents who perceive internet access in internet cafés as rather cheap with an hour costing approximately between 1,200 Ushs to 1,500 Ushs.

It was also discovered that in Kawempe, the internet is perceived as a not user friendly ICT among most respondents. Considering that most people are illiterate with minimal or no e-literacy skills, they cannot use the internet or a computer. Most people identified with no internet access, attribute this to illiteracy and their lack of basic internet skills. Even those that use the computer, affirm that they are not very conversant with every function of the internet and computer. In fact for these respondents, considering that they perceive the internet as not user friendly, they do not adopt to use it. Illiteracy is thus a major personal conversion factor that limits internet use for majority of the respondents in the area.

For the internet users, there are always infrastructural challenges relating to power shortages. With the unstable and irregular power supply, it is always a challenge for one to use the internet whenever they want to. Internet cafés are usually closed when there is no electricity as they do not always turn to other power sources like generators because they also consider them expensive. In general, Uganda has paid little attention to the electrification for informal settlements (UN Habitat 2009: 35). The situation is similar in Kawempe as some slum households<sup>8</sup> in Katanga Kimwanyi zones A and B for instance were found with no electricity

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<sup>8</sup>A slum household can be referred to as a, "a group of individuals living under the same roof that lacks one or more of the following: access to safe water, access to sanitation, secure tenure, durability of housing and sufficient living area" (Oxfam GB Kenya Programme 2009: 5).

because household individuals could not afford it. Even for those households found with electricity, the main challenge is that it is usually unstable. Besides power shortages, the poor network is always frustrating for internet users as it usually is very slow and sometimes unstable.

#### **4.5.2. Challenges faced with mobile phone use among the urban poor in Kawempe**

High costs for mobile phone users were identified as a major challenge. These costs mostly include air time expenses. An average respondent spends approximately 2143 Ushs per day on airtime in Kawempe and considering that the average person earns, 173,900 Ushs per month, this is a considerably high expenditure on airtime. Although issues of cost should be important to the poor, the urban poor in Kawempe seem to be spending substantial amounts of their incomes on mobile phone use. Just like in the community of Kawempe, a study by Rashid and Elder (2009: 4) also found that the poor in developing countries spend much of their incomes on mobile phone use. Currently airtime charges on calls have gone high and one now spends more on the same call than previously. This is because telecommunication operators in the country started to increase their tariffs again in 2011 as a way of generating additional revenue streams (Budde 2012a). A cobbler in Katanga Kimwanyi zone B said that,

*“I do not earn so much, but I spend so much on airtime because I have to stay in touch with my family and friends. Airtime is taking up so much of my earning yet the costs have gone high”* (Interview).

Although majority of the respondents considered mobile phone charges for airtime as costly, there are others who did not perceive this as a problem. This is because telecommunication companies offer services such as low air time costs to similar networks. These respondents have resorted to ownership of multiple SIM-cards so that they can call all networks with similar SIM-card networks. In this way, they cut on the tariffs charged when calling a different network. A young student in a tertiary institution in Bwaise noted that,

*“A mobile phone is not expensive to me because I have various SIM-cards to call the different networks. I also can use for example 500 Ushs of airtime to make a deal of 500,000 Ushs which replaces the airtime I have used. Also the handset itself is not expensive because we buy second-hand mobile phones.”* (Interview).

Another challenge is related to the issue of power shortages. This is also a challenge faced by internet users. It is hard to use the mobile phone especially when one cannot charge the

battery. Respondents still find it expensive to charge the batteries of their phones because they have to pay for that service.

*“With these power cut offs, you can miss out on a huge business deal because people cannot contact you”* (Interview).

There is also a challenge with network connections that the respondents complain about as being unstable and unreliable. These infrastructural challenges constrain mobile phone use among majority of the studied participants in Kawempe.

## Chapter 5: Analysis of Findings

The main concern is whether, the respondents' use of the internet and mobile phones facilitates their economic and social development. This chapter presents an analysis from the findings in response to the main research objective. It also presents the analysis in light of the literature review while at the same time referring to both Rogers' (2003) *Diffusion of Innovations theory* and Sen's *Capability Approach theory*.

### 5.1. Internet use and Economic growth

From the findings, it has been observed that some internet users although very few integrate the internet in some of their economic activities. For those respondents with business colleagues abroad, the internet has become the cheapest way to communicate with them, viewing the internet as having a higher '*relative advantage*' in this case compared to any other ICT like the mobile phone. Also these internet users view the internet to have a high '*result demonstrability*' when it comes to delivering in their economic activities because it has facilitated the coordination of their economic activities with partners including those sometimes within and out of the country. The internet therefore is offering an opportunity for these entrepreneurs in Kawempe to communicate directly with their clients and partners anywhere in the world. For the majority of these respondents, that is the reason that they started to use the internet.

The internet thus has played a major role in helping them facilitate or run their businesses and other economic activities they integrate it in. This is in line with Sen's *Capability Approach* as the internet is enhancing their capabilities to run their businesses effectively which in turn support their livelihoods. The internet is offering a fast solution for them to coordinate their work with the networks abroad they consider important. A mobile money kiosk operator in Bwaise Kazo zone sees the internet as very helpful and enabling her to effectively coordinate her business. She notes;

*"I have customers abroad and I need to stay in touch with them if I do not want to lose them. The internet provides a cheap solution for that. When my customers abroad send money, they inform me through emails. That is how we coordinate the transactions and it is helping me run this business well."* (Interview).

It is important to note that majority of the internet users, who consider coordinating their businesses online, have business partners abroad. For some, this is the reason they started to



use the internet, considering the ‘*results demonstrability*’ of the internet highly in facilitating their economic activities and they also saw the internet as a cheap way to communicate and coordinate their businesses with their partners abroad. But with those work colleagues within the country, the mobile phones usually substitute this role as they are considered to be more accessible by everyone anywhere in the country than the internet. Although quite rare in the community, there are some internet users who use the internet to coordinate their work with colleagues within the country but in the study context these were identified by the respondents as mainly the youth or younger people with internet access. As earlier noted, it is mostly the youth or younger respondents in this study who were identified to have much higher internet access compared to the older people. This was attributed to their higher literacy levels compared to the older people. General lack of internet access and use among the older people in the community was pinned to high e-illiteracy levels and illiteracy in the study area.

Being literate is a major *functioning* that is lacking among the older people and limiting their freedoms (capabilities) to do anything that would have facilitated their economic growth through the internet. It is also a *personal conversion* factor as identified by Sen (Robeyns 2005: 99) that limits these local people’s use of the internet, and in this case, in the way how they influence their economic outcomes through the internet. Illiteracy was also a factor observed by several scholars like Ndou (2004: 1), Sharma and Shurges (2007: 1) and Warschauer (2003 in Haseloff 2005) to limit internet use in the developing world. Indeed, some respondents who cannot use the internet due to lack of e-literacy skills or illiteracy, acknowledge the benefits that can accrue from being able to use the internet for economic purposes. A 48 year respondent in Bwaise said,

*“I would wish to network and do business with people abroad in Dubai, Malaysia or China and Japan. I would like to expand my business but I cannot because using the internet to coordinate such business ventures would inevitably be necessary considering the fact that I cannot travel always. And at the same time I cannot trust someone to do this online on my behalf because, I do not want to be cheated.”* (Interview).

It is also observed that within the study context, many respondents consider or perceive the internet as an ICT tool mostly used by those who have or are looking for people they need to communicate with abroad, whether for economic or social purposes.

The creation of jobs through the internet is a possibility also in community development for the investigated area as some respondents in the community have gone ahead to use the internet to look for jobs. Some very few have actually been able to get jobs online while others have created jobs or forms of employment for themselves from the internet like opening internet cafés in the area. A medical assistant living in Katanga Kimwanyi zone B acknowledged his receipt of a project funding through the search he did on the internet. However, in a focus group discussion, respondents also confirmed that job searching on the internet is low in the area because most people do not know how to use the internet but there are prospects.

The most forms of employment in the community were identified to fall in the informal sector and due to high illiteracy levels and a low attainment of education among most of the investigated participants, most people lack professional skills. Considering the type of working skills and businesses in the area, people do not feel that they should be advertised or marketed on the internet. Advertising work and other skills online is considerably very low among some internet users. In the focus group discussions for both men and women, the low use of the internet to either coordinate, market or run businesses and other economic activities online was attributed to the nature of work done in the area.

*“Most people here run small businesses like selling bananas, tomatoes, charcoal, and have small retail shops among others. None of them considers that this is the kind of work or business you would advertise on the internet. People think the internet is more sophisticated than for one to simply advertise their tomatoes on it”* (Women’s focus group discussion).

For those that integrate the internet in their economic activities, it has played some role in facilitating their economic growth through improved coordination of their economic activities. For some who have been able to search and get jobs online or create jobs for themselves through the internet, this has also facilitated their economic growth. However, majority employed in the informal sector in the area, generally to a large extent feel that they cannot use the internet to facilitate their economic growth and that accounts for why there is low internet use in economic activities among respondents. For them, it is a combination of factors

like lack of e-literacy skills, illiteracy and the nature of their work that limit them to use the internet to coordinate their economic activities.

In general, it has been discovered that there is some internet use for economic purposes in the area among respondents and although very low, there is a prospect for its use and some people have actually benefited economically.

## **5.2. Internet use and social development**

Analysis in this section is done pertaining to internet use and the two aspects of social development under consideration for the study, that is; health and education.

### **5.2.1. Internet use and Health**

Internet use for health purposes is so low in the area with only very few of identified internet users considering it important. None of the respondents adopted the internet for health purposes. For these respondents, the internet is another source for obtaining health information and discovering issues they consider important to their health. In this way the internet is used mainly to inform these respondents about health issues that they sometimes do not ask a doctor or a health official. For example information related to healthy nutrition, and also on sensitive health issues like sexually transmitted diseases (STDs). One student in Bwaise claimed having obtained more information concerning HIV/AIDS signs and symptoms and its prevention. She noted,

*“Sometimes you do not always have the time to go to a doctor to inquire about issues pertaining to certain diseases, especially those that are sexually transmitted. Sometimes you even hold back on asking some of these questions because you fear. But on the internet, I can access that information at anytime I want to, with privacy.”* (Interview).

From the respondents, that use the internet, it was identified that accessing health information online can actually be rewarding to the users. According to Sen (Robeyns 2005: 94), individuals should be able to value their lives upon reflection. To some internet users, this is the case with internet use for health. Another internet user was quoted saying,

*“I think that now I eat healthier. In our community we do not talk so much about whether what we eat is healthy and sometimes we just eat anything. But now that I*

*searched on the internet on healthy nutrition, I know the kinds of food that are not good for my health” (Interview).*

Elder and Clarke (2007) and Rashid and Elder (2009: 8) are some scholars with optimistic views about the role of the internet in facilitating health. Although the internet maybe considered with a potential to enhance people’s capabilities and functionings directed towards improved health or healthy living, it is not considered very important in the community context. Physical visits to a nearby clinic or hospital are preferred usually when one is ill or physically sick and there are negligible attempts made towards obtaining any health information online. Besides, there are no online health run services in the area of Kawempe so it is almost impossible to influence health care in Kawempe on the internet by users.

A majority of the internet users have never used it for health purposes, while others have occasionally done so, though not consistently or considered it importantly. It was observed from the interviews that most respondents considered health in one aspect of ‘not being physically sick’ themselves but issues of sanitation though poor in the area were not a major concern. In semi, structured interviews, the limited use of the internet for health purposes is attributed to the fact that there are very many small clinics available in the area that one goes to when feeling sick. None of the respondents considered adopting to use the internet for any health purposes because of the availability of clinics. So, the physical presence of clinics in the area perhaps can be said to be considered a better alternative compared to using the internet to access or coordinate any health issues. The internet’s ‘*relative advantage*’ and ‘*result demonstratability*’ in terms of health in the community is considered very low which explains its low adoption for health use purposes.

### **5.2.2. Internet use and Education**

The culture of using the internet in any education related activity is still very low among majority of the respondents. From the findings, there are some people who use the internet for education related purposes. Although very few, most of these are young students either still in school or those immediately out of school. They engage in activities like conducting online research for education purposes and applying for education scholarships abroad. The biggest users of the internet for education purposes are those in the age category of 18-23 years and these are mostly students. Even the ones identified in the age category of 24-29 years are

mostly still students but the ones in the age category of 30-35 years and 36 years and above only conducted minimal education related purposes or researches online.

The younger people in anticipation of building their future careers mostly engage in education. For these young users, the internet has provided a platform for enhancing academic research and further education opportunities through online scholarship searches. It can thus be implied that the internet is contributing to the students' capability of achieving education and enhancing their future careers. Although internet use for education was not something that most users considered important when they first started to use the internet, it was something that later emerged as an important use alongside other users. Before internet use or adoption therefore, the '*result demonstratability*' of the internet towards education was either viewed as insignificant and some respondents were just ignorant about it.

### **5.3. Mobile phone use and Economic Development**

The mobile phone is the most widely used ICT with a higher penetration among the respondents in the community of Kawempe compared to the internet. People have naturally merged mobile phones in their economic activities; both in formal and informal employment. The mobile phone has become an integral part of their everyday activities. Majority of the respondents identified the mobile phone as being very important in their economic activities and indeed some adopted to use the mobile phones to facilitate their economic growth. In light of Roger's PCIs, the '*result demonstratability*' of the mobile phone in economic activities is viewed greatly by majority of the respondents. Some identify the mobile phone as being very useful in coordinating and running their work through communicating with their customers and business colleagues. In this way, they stay updated on both their market and supply like Aker and Mbiti (2010: 9) suggest that mobile phones can facilitate market efficiency due to improved access to information coordination among agents. To these respondents, the mobile phone plays a big role in keeping their economic activities running daily and hence has facilitated their *freedoms* and *capabilities* to do their work. One lady who sells scrap metals in Bwaise was quoted saying,

*"...without my mobile phone, I would probably never run this business as well. I call my suppliers to get me particular metals that customers want. Also the customers sometimes just call me to make orders. This saves us so much money because we do not necessarily have to physically go to the customers but they*

*simply call. Also people who know my work give my number to other people who need my services” (Interview).*

To others, the mobile phone has become a source of employment. Telephone kiosk owners benefit from selling airtime cards and also earn incomes from their public pay phones. Mobile money transfer operators also have opened up small kiosks in these areas as small businesses. And because unreliable electricity is a big problem in the area, some have started up kiosks for charging mobile phone batteries and they benefit from this business because of the high numbers of people with mobile phones in the area. Therefore, some people in the community have seized opportunities out of the existence and diffusion of mobile phones in the community through creating for themselves employment. As Khalifa and Cheng (2002: 1) observed that with mobile phone diffusion, individuals are likely to observe usage of mobile technology for commerce, so is the case among some of the respondents. It is noted therefore that mobile phone use is building these people’s *capabilities* to function by enabling them to create employment and earn a living and also engage in these activities in order to sustain themselves economically.

Mobile money services; both transfer and banking are important in the community. Some use these services to transfer payments and also receive payments for their businesses while others simply make money transfers for other different reasons. Others perceive mobile money banking important in securing their savings and also a better form of banking compared to bank saving because no monthly charges are required and one can make transactions anywhere in the country due to the great network coverage. A lady in Katanga Kimwanyi zone A noted,

*“I can use mobile money services to bank and save some little money to use in the future when I for example get sick. Mobile banking is easy to use and the process of opening up a mobile money account is not as hectic as the one in the bank” (Interview).*

The community is benefiting from the use of mobile phones because they have managed to integrate this ICT into their business ventures. The mobile phone has fit well in this local context and people have adopted them, making them a great part of what they do. In brief, mobile phones have provided an opportunity to run and coordinate people’s economic activities in the community, create employment and now offer financial services like mobile

money banking to others that consider financial saving important. It is these freedoms that enhance opportunities for individual economic growth. To Sen's Capability Approach (Robeyns 2005: 94), development should be viewed in people's capabilities to function and undertake the actions and activities that they want to and be whom they want to be. The mobile phone in the community is playing a major role in facilitating Sen's ideas to majority of the study respondents especially in relation to their economic activities.

## **5.4. Mobile phone use and Social Development**

In this section, mobile phone use is going to be analysed in line with the specific aspects of social development for this study, that is; health and education.

### **5.4.1. Mobile phone use and Health**

Mobile phone use for health purposes is very low and only important to some few of the investigated participants in the community. They use mobile phones to make doctor's appointments and health inquiries. Considering that there are many accessible clinics in the area, respondents usually prefer to see a doctor directly most especially when physically sick. There are no active tele-health initiatives in the area and in both semi-structured interviews and focus group discussions, majority of the respondents including local leaders were not aware of the existence of any tele-health initiatives. Some had just merely heard of a tele-health program run by MTN Uganda where participants can send their inquiries and get answers through SMS especially on sensitive health issues but this is not a common practise in the community. Some attribute this to costly SMS services.

*"I cannot seek for health information on my mobile phone. Those SMSs are expensive, each goes for 220 Ushs. I would rather go to a doctor directly"*  
(Interview).

Others attribute this to the fact that some people do not exactly know how to use detailed functions of their mobile phones due to illiteracy. Although mobile phones are much easier to use compared to the internet, a factor that some respondents attribute to having adopted the use of mobile phones instead of the internet, the ease of use practically becomes relative in the local context. Some respondents initially perceive the mobile phones as easy to use but when they start using them, they are more comfortable with using only minor functions on their mobile phones without going into detailed use. This is based on how literate one is. In a focus

group discussion, it was noted that so many people in the community have mobile phones but can barely do anything practical with them besides receiving and making calls.

*“...not everyone can send an SMS to inquire about health issues on their phones. People have very nice phones just to show them off but they only know how to receive and make calls”* (Men’s focus group discussion).

When viewed in the lenses of the two theories, first none of Roger’s PCIs were applicable to mobile phone adoption for health use in the local community. So for scholars like Elder and Clarke (2007) and Rashid and Elder (2009: 8) who optimistically emphasise the potential of the mobile phones in health care arguing that they can perform greatly in this sector due to their high penetration in communities, this to a certain extent can be true but the scenario is different in the community of Kawempe. First because there is no active tele-health initiative, people cannot influence their health issues at a broader level using mobile phones. Second because the local community does not perceive mobile phones as being important in delivering and facilitating health services, then we cannot be very optimistic but to understand the local context and take appropriate action like educating people on the potential role of mobile phones in health service delivery. However, we cannot be totally pessimistic about mobile phone use for health in the community because there are some respondents who use the mobile phone for health purposes. This particular use emerged alongside other uses for mobile phones among these respondents. These respondents argue that although they do not often use their mobile phones for health purposes, the times they use them, they are very helpful in facilitating doctor’s appointments to get treatment and making minor health inquiries. In view of the Capability Approach, although minimal, this use of the mobile phone eventually facilitates the achievement of health, a functioning Sen identified as important to development.

#### **5.4.2. Mobile phone use and Education**

Mobile phone use for education purposes is also very low in the community mostly among young students. The mobile phone is used to coordinate education activities and making inquiries or accessing information about important education issues in time.

*“I cannot miss out on important assignments or tests at the university in case I was not initially aware of them, my friends usually call me and they inform me”* (Interview).



For the older people, the mobile phone simplifies their duties as they can coordinate all their children's needs in school, make inquiries and suggestions to influence their children's education simply by making calls.

In view of the Diffusion of Innovations theory, none of the eight PCIs were applicable in facilitating mobile phone adoption in relation to education use. None of the respondents admitted to having initially adopted the mobile phone for education uses. This use emerged later after mobile phone adoption due to continued use and people eventually discovering that they could actually coordinate education related activities on their phones. For these users, the mobile phone facilitates the coordination of education. In light of Sen's Capability Approach, the mobile phones thus are also facilitating the functioning of attaining an education although their use for this purpose in the community is very low.

## **5.5. Summary**

The research questions guided and shaped the work in this study and a summary of the findings of the research work is also in direct line with the research questions. For research question one, findings indicate that there is both internet and mobile phone access in Kawempe among the urban poor. For the internet, access is so low among the investigated respondents and is usually through internet cafés. There is also limited individual ownership of the internet in the comfort of people's homes or work places. The low access to internet among the studied participants is especially due to its high cost and high levels of illiteracy among most respondents.

Unlike the internet, the mobile phones are highly accessed by the vast majority of investigated respondents. Most of them own their individual handsets and those few without their own mobile phones share with friends and family or use public phones to access phone services. Mobile phones are much cheaper and much easier to use and that explains why they are highly accessed by most of the respondents compared to the internet.

In response to research question two, Internet and mobile phone uses were found to take on a variety of forms. Communication with family and friends is considered the most important use for the internet among majority of the participants. The internet among some respondents is considered a cheaper means to communicate with people especially those abroad. There is however a very limited use for the internet in economic activities as well as education and

health activities. Very few of the studied participants use the internet for economic, education and health related purposes and majority do not, because they do not consider it as important, are unaware of the benefits of this use, they find it costly and majority lack internet skills. Also another internet use is in the form of entertainment. Entertainment uses include: listening to music online, downloading music, and playing games especially among the younger respondents. Some internet users also search for news online.

For the mobile phones, communication with family and friends is considered an important use. Unlike the internet, the mobile phone has been to a bigger extent integrated into people's economic activities. This is because mobile phones are accessed by majority of the people and most respondents find them cheaper and easier to use. However, there is also a low use for mobile phones in education and health related activities amongst majority of the respondents. Majority of the respondents do not consider using their mobile phones for education and health purposes as important and to some this use is considered costly.

In general, for both the internet and mobile phones, communication uses are considered mostly important among majority of the study participants.

In line with research question three, the identified uses were analysed and it was discovered that even though low, internet and mobile phone uses to a small extent contribute the users' social and economic growth as specified in this study. For the internet, economic uses are so low but those few respondents that undertake this use affirm that they benefit through being able to coordinate their economic activities with their partners especially those living abroad. Internet users who undertake education activities online have found the internet to provide a broader platform for undertaking a wide range of education research. Those that use the internet for health purposes search for health information online which they say has helped guide them to undertake better health practices and has also informed them of health issues they were not aware of before or could not ask a doctor. Therefore, although low, the use of these two ICTs-the internet and mobile phones among the end-users in this case being the urban poor in Kawempe, has facilitated capabilities that enhance both social and economic development. It is in this case important to note that some of the activities practised by the end-users on their internet and mobile phones are to a large extent therefore not socially or economically developmental.

In Kawempe, various challenges were found in relation to internet and mobile phone use as the study attempted to respond to research question four. First there is an issue of illiteracy that is a major hindrance to especially internet use among majority of the respondents usually accruing into a total lack of internet skills. Illiteracy cannot only be limited to internet use but also mobile phone use because, due to the fact that people cannot read and write, they make use of only a few functions on their mobile phones and thus cannot make meaningful uses of their phones. Even those that access the internet sometimes fail to use it efficiently because they cannot easily use the various detailed functions of the internet and therefore are also limited sometimes from making meaningful uses of their access.

The issue of cost was raised for both the internet and mobile phone although the internet is considered much more expensive among majority of the respondents in Kawempe. Besides cost there are also infrastructural challenges for both internet and mobile phone users in Kawempe. Unreliable electricity supplies and unstable network connections also pose a challenge for users.

Therefore, it is clear to see that there is access for these two ICTs in Kawempe although it differs for both the internet and mobile phones. The various uses for these two ICTs were established among those with access and an analysis reveals that to a small extent, some of these uses are geared towards users' social and economic development. It is still important however, to understand that although these two ICTs have some potential to influence user's social and economic development, not all uses are directed towards social and economic development and that internet and mobile phone use is also limited by a range of existing challenges.

## **5.6. Theoretical Implications**

The two theories were very instrumental in helping the study respond to the research questions and main research objective. They facilitated the explanations for internet and mobile phone adoption, access and use in Kawempe, assessing the impact of the identified uses to social and economic development and finally understanding the challenges that are associated with both internet and mobile phone use. While the DOI plainly elucidated the motivations behind internet and mobile phone adoption and use, bringing in the Capability approach helped to understand whether their use influences both social and economic development for the people in the area. The Capability approach was very important to the

study because it goes beyond the economic explanations of development to also give a broader focus on the social aspects of development. The two theories were tested in the local context of Kawempe and most of the identified elements in each theory, were applicable although some did not fit well in the local context. Roger's eight PCIs in the DoI theory were field tested while for the CA approach; the main issue was to understand whether both internet and mobile phone use builds people's capabilities in the community of Kawempe.

### **Diffusion of Innovations Theory**

The DoI was used to help understand perceptions or motivations behind both internet and mobile phone adoption that facilitates access and understand use. For the internet, some of Rogers' PCIS were actually applicable in the study context to determine adoption decisions for the internet. For instance some people consider the '*result demonstrability*' of the internet very important because they are more interested in seeing results such as the ability to communicate with their family and friends both within and out of the country. Others view the internet with a more '*relative advantage*' compared to other ICTs like the mobile phone especially in being a cheaper means to communicate with people abroad. These two PCIs; '*result demonstrability*' and '*relative advantage*' apparently play a major role in influencing internet adoption that facilitate different forms of access among study participants in Kawempe but most respondents viewed the two PCIs in line with communication uses and for some few, coordination of economic activities. None of the respondents considered the internet to have a high '*relative advantage*' or '*result demonstrability*' in facilitating education or health uses when adopting the internet. This is mainly because most respondents were found to be ignorant of the fact that the internet could facilitate health and education delivery and some just did not consider it important. Eventual health and education uses emerged just among few respondents after continued use of the internet and people discovered that they could conduct health and education uses online. Therefore, it can be noted that the PCIs are subject to other factors other than themselves, which can either influence their consideration or rejection during decisions to either adopt or reject an innovation especially in regards to a particular use.

There are also other respondents that are influenced by issues of '*image*' especially when it comes to being members of different online social networks like facebook. Rejection to access and use the internet in the community of Kawempe is also mostly based on Roger's PCI of '*Ease of use*' where for the majority of the respondents, the internet is not used

because they lack e-literacy skills or are generally illiterate. The other of Roger's PCIs, were not found to impact on internet adoption and rejection decisions in the study as most of the respondents are mostly drawn to what they can benefit out of using an innovation.

Mobile phone use and adoption in Kawempe is generally influenced more by Roger's PCIs compared to the internet. The first six PCIs are very instrumental in influencing mobile phone adoption and eventual use among the investigated participants. For instance, mobile phones have diffused through the community and have been integrated into majority of the people's daily lives; some respondents find them to have a higher '*relative advantage*' to use in their economic activities, for others, cheaper to access and also for some others, an ideal ICT for enabling communication among friends and family. Others perceive to obtain a high '*result demonstrability*' through mobile phones in all the actions that they intend to integrate them in, be it communication or in economic activities. Noteworthy, most respondents projected the two PCIs, '*result demonstrability*' and '*relative advantage*' more to communication use and coordination of economic activities than any other use for the mobile phones. None of the respondents considered the mobile phone to have a '*relative advantage*' or a high '*result demonstrability*' in facilitating education and health when adopting them. But education and health uses among only a few respondents eventually emerged when they realised that the mobile phone could actually facilitate these two social aspects of development.

The PCI of '*image*' influences people's decisions to start using mobile phones as some respondents perceive them to enhance their social reputation among their peers. For these people it is important that they access mobile phones through individual ownership of handsets because all their peers have access to them and it is considered trendy. For others, mobile phones are '*compatible*' with their needs of communication and coordinating their economic activities among several others. While compared to the internet, the '*ease of use*' for the mobile phones is considered much higher among majority of the study participants and this is a factor some respondents attributed to their high use and diffusion in the community. For some others, the '*visibility*' of mobile phones is high in the community with so many available telecommunication service centres in the area that have facilitated the availability of mobile phones in the area, making them accessible to almost everyone that can afford them. It is important to note that the study findings show that a single individual can consider more than one PCI when adopting to use the internet or mobile phone in the study area. Some of the

PCIs were supporting each other in this case. Among the study participants, the last two of Roger's PCIs, that is; '*trialability*' and '*voluntariness*' were not considered important in influencing mobile phone adoption and use in Kawempe as respondents were more concerned about what they can get out of an innovation.

Also another important consideration to note is that in case an individual is influenced by a single PCI in adopting internet or mobile phone use, use is not only limited to factors attached to that PCI. For example, majority of the respondents adopted the mobile phone perceiving it with a high '*result demonstrability*' in facilitating communication among friends and family. It would be assumed that such respondents would consider using their mobile phones only for communicating with friends and family but the same respondents reported to having found other uses for their handsets. For example some discovered that they could use their mobile phones to coordinate their economic activities through communicating with their business partners, others started to make minor health inquiries on their phones while others found that they could actually start accessing the internet on their phones. The point here is that, from the study, an individual's perception and motivation to start using an innovation in this case the internet and mobile phones, maybe limited to a few functions and uses at the start but continued use of that innovation can lead to the emergence of other uses considered important by the user as long as that innovation allows it.

Even though Rogers' PCIs have in this study been considerably vital in explaining both internet and mobile phone adoption that facilitates access and use and are also a basis for understanding some of the challenges that face users hence responding to research questions 1, 2 and 4, the research has identified a 'could-be' weakness. This is an opportunity to criticise or build on this theory. This possible weakness was identified with mobile phone adoption and use in the local context and I will refer to one of Roger's PCIs; '*ease of use*' to explain it. The '*ease of use*' in relation to mobile phones has been related to by most of the studied participants. When compared to the internet, the mobile phones require less skill to use which has accounted for their higher diffusion in this community compared to the internet. However, interesting findings emerged where people eventually adopt the mobile phones with a first impression or perception that they are easy to use but when they practically start to use them, they realise that they are not as easy to use as initially perceived. Hence people limit their use of mobile phones to only a few functions as one respondent in a

focus group discussion put it, “to the ‘yes’ and ‘no’ buttons” for taking and receiving calls or rejecting calls. This is especially among the illiterate. Even though none of the respondents reported to having halted mobile phone use because they could not understand or use most of the other functions, my assumption here is that one would eventually drop something that they earlier perceived with a certain degree of ease of use but later realise that, that degree does not account much. Therefore, unless an individual makes an effort to learn better ways of using an innovation, complexities relating to that innovation’s use might result into halting its use.

Therefore my main concern with the DoI theory here is what I refer to the PCIs as lacking ‘sustainability of adoption’. According to the free online dictionary (2012), the word ‘adoption’ has several definitions but it can mean ‘to take on or assume’. It can also mean ‘to take up and make one’s own’. By ‘sustainability of adoption’, I mean that a PCI chosen for the adoption and use of an innovation should at least be able to sustain that adoption unless otherwise influenced by other factors other than itself including those that were not foreseen and the characteristics that surround the innovation itself. Of course individual PCIs are not independent of other factors to determine adoption/rejection of use of an innovation as seen earlier. Therefore, if for instance a single PCI is the reason for adoption and use for an innovation, then let that PCI be able to sustain the adoption and let rejection be due to another factor other than that particular PCI itself. For example, if a user perceived a mobile phone to have a high degree of ‘*ease of use*’ before adoption, the assumption is that they have earlier been exposed to it in one way or another either directly or indirectly in order to decide to take on the mobile phone and for that matter consider it as easy to use. Perception for adoption and use of an innovation should be accompanied by the actual reality surrounding an innovation itself. And the important issue to note here is that individual perceptions alone cannot guarantee sustained adoption and use of an innovation or its rejection because they can always change.

### **The Capability Approach**

The study initially hypothesised that internet and mobile phone use can influence the outcomes of the urban poor’s economic and social development. With regards to the Capability Approach, the study findings indicate that with some of the internet and mobile phone uses by the respondents in Kawempe, there is capability development to support both social and economic development although low. There are some internet and mobile phone

users who utilize these ICTs to help them coordinate their economic activities. Although internet and mobile phone use for health and education is so low in Kawempe, some respondents who undertake this use were found to benefit from it.

A major '*personal conversion factor*' identified to limit internet use is especially illiteracy in the area. Some mobile phone users also cannot coordinate health or education related issues on their phones because they are illiterate. For the internet, illiteracy and lack of basic e-literacy skills generally limit its adoption and use in education and health or economic activities. Therefore, even in the presence of the high diffusion and penetration of such technologies like the mobile phone in this community, for capabilities to be developed, there is a need to first of all deal with illiteracy problems. Capabilities and functionings cannot be achieved if individuals cannot translate the characteristics of the internet or mobile phone into something beneficial for both their economic and social development because they are illiterate. Also some people are just ignorant of the potential impacts the mobile phone can have on education and health related issues and hence do not undertake mobile phone uses in relation to these two aspects of development which limits capability development from their use of the internet and mobile phones.

In the capability approach, it is considered important that obstacles in people's lives are removed and that they have more freedom to live the kind of life that, upon reflection, they have reason to value (Robeyns 2005: 94). In the community of Kawempe, majority of the investigated participants value having social capital and the mobile phone is mostly seen to facilitate their freedom through enabling communication between family and friends. It actually removes any obstacles to communication for people with family and friends living quite far away from each other for most of the respondents. To most of the study participants, staying in touch with their family and friends is considered a very important use for their mobile phones. Thus the mobile phone is enhancing these people's capabilities to build and strengthen their social capital through staying in touch with their family and friends both near and far. However to do this, many of the respondents are spending large portions of their incomes to stay in touch with their family and friends. The average person among the investigated participants spends approximately 2143 Ushs daily on airtime yet also the same average person earns about 173,900 Ushs per month. Besides airtime, there are also other needs that have to be met by the same monthly income meaning that for some people, there



might be some little savings while for others probably none but all this depends on how many needs one has. Although the mobile phone has already been credited for its role in coordinating majority of the respondents' economic activities, this is still a lot of money being spent on buying airtime compared to monthly earnings. So each day, the average person spends about 1.2% of their monthly income on airtime.

In this case therefore, maintaining social capital through the mobile phone is at the expense of economic growth in terms of individual incomes. In the capability approach, only the *ends* are considered to have intrinsic importance while the *means* are only instrumental to reach the goal of increased well being and development (Robeyns 2003: 6; Robeyns 2005: 95). Here, the *end* is realized social capital achieved by *means* of the capability to communicate amongst family and friends through mobile phones. However, respondents are spending substantial amounts of their incomes on airtime especially to stay in touch with their family and friends. Even though they value social capital, for me I see it as a cost to their potential to save more income. In other words, the means here, that is; being able to buy airtime to use mobile phones for communicating with family and friends are having a cost on respondents' potential economic growth. Not only economic growth, but eventual use of limited incomes on for instance education and health can have an impact on the quality of education and health obtained by these respondents.

Therefore, while to Sen's CA, the *means* are not very important but only instrumental to reach the *ends* and with only the *ends* having intrinsic importance, the *means* should also be considered vital because while they are helping one achieve capabilities to develop a certain valued prospect in their life, this maybe at the expense of another form of development in the process. So can that then be considered to be development if certain forms of development are limited at the cost of achieving one form of development? I think that Sen did not consider the fact that some *means* can actually be a cost to achieving optimal development at some extent. Therefore, the *means* should also be critically evaluated so that even though they facilitate, a single form of well being, they do not do this at the expense of another potentially important one.

## **Chapter 6: Conclusion and Recommendations**

This chapter presents the conclusions drawn from the discussion of the findings and the proposed recommendations to all the stakeholders that support implementing ICT use in promoting social and economic development, be it government or civic organizations.

### **6.1. Conclusion**

In general, the study findings indicate that the social and economic aspects in Kawempe division are still very low. Poverty roams the slums and is an issue among majority of the study respondents. The main economic activities are in the informal sector with short-term jobs yielding low incomes among majority of the respondents. This is mainly a result of high illiteracy levels in the area as people cannot be formally employed. Issues of health in Kawempe are also poor with congested households and overcrowded houses, poor waste management and poor sanitation among others. Illiteracy is also high especially among majority of the older people. The main question then, is whether internet and mobile phone use among the urban poor in Kawempe is economically or socially developmental. Yes, to a small extent it is, whether intended or unintended is directed towards social and economic development.

The study findings show both internet and mobile phone access and use in Kawempe. Mobile phone access and use is much higher than internet access and use in the area. This is largely attributed to illiteracy which makes the internet a lot harder to use than the mobile phone. Participants also consider mobile phones to be more affordable compared to the internet whose cost limits access and individual ownership of the internet or computer. For majority of the respondents, access to mobile phones is through individual ownership of handsets while internet access is mainly through public internet cafés. When these two ICTs are viewed through the lens of the Diffusion of Innovations theory, mobile phone adoption in Kawempe is driven more by Rogers' PCIs compared to the internet.

Internet and mobile phone use takes on different forms. For the mobile phone, communication with family and friends is considered crucially important and yet it is also important to note that this ICT has extensively diffused more in the community with majority of the respondents having their own handsets. Mobile phones have impressively been integrated into most of the local participants' economic activities and for some of the respondents, mobile

phones were adopted for this purpose. They are used to coordinate and help run people's businesses and are viewed as an enabling tool for the smooth running of economic activities. It can thus be said that mobile phones are used in this area by some people to influence their economic growth although there are some who do not use them for this purpose. Although mobile phone use for education and health is ostensibly low, those who undertake this use, acknowledge benefiting from it. For these users, health and education uses just emerged with continued use of the mobile phone but was not the intended use initially when adopting the mobile phone. It is however important to note that even for these few, the mobile phone has enabled them to coordinate both their education and health activities. In view of the Capability Approach, it can thus be said that mobile phones indeed facilitate some respondents' capabilities especially in their economic activities and even though mobile phone use is low in health and education, still users capabilities are facilitated. Therefore, even though almost insignificant, mobile phone use for social growth in Kawempe still occurs.

Internet penetration and use is so low among the study participants in Kawempe. Most people are illiterate and perceive the internet as expensive to obtain or not user friendly and is thus left for the educated. For the few that use the internet, access is mainly through internet cafés with minimal personal internet and computer ownership. Internet use is mostly directed towards communication with family and friends but there are some people that have taken their internet use beyond just mere communication to coordinating their economic activities; especially those with business partners abroad. Some people actually perceived the '*result demonstrability*' of the internet in facilitating communication between business partners anywhere in the world importantly and that was why they started to use the internet. Internet use to provide online economic services and products in the area is negligible as people perceive that their kind of work does not qualify to be advertised or sold online. For the few users that coordinate their economic activities online, the internet has facilitated their capabilities for potential economic growth although this cannot be said to be the same for a vast majority of the study respondents.

Internet use for health and education purposes is considerably low. There are no active e-learning services or online health initiatives in the area that people would have been used by local people to influence these two aspects of their social development. Even if such services

were available, high illiteracy levels would stand as a challenge for their utilization. The identified influence comes from individual internet use although this is also very low. The internet was initially not perceived by majority of the respondents as a possible means to influence both health and education issues but health and education uses just emerged overtime from continued use of the internet. Some users eventually discovered that it was possible to obtain health information or coordinate some of their education activities online. For these users, the internet has facilitated their capabilities in influencing their education and health aspects as it provides a platform for enhancing these two aspects of social development.

Therefore, to some extent, although small, internet and mobile phone use in Kawempe is directed towards the economic and social aspects of development. Can it be said then that internet or mobile phone use can help to address some of the vulnerabilities of the urban poor in Kawempe especially in economic and social constraints? This is possible but it will have to take great initiative among both the local users themselves and some outside intervention.

## **6.2. Recommendations**

This study was more like a situation analysis for internet and mobile phone use in Kawempe. One of the anticipated benefits was to have a basic understanding of both internet and mobile phone use in general but then these uses were analysed in the aspects of economic and social development so as to see if they are or can actually influence these two forms of development. It is also important that any outside ICT intervention or any potential ICT4D initiative for the area can have a foundational understanding of how these two ICTs are perceived and used before implementing such initiatives. It has been observed from the study that in some cases, respondents do adopt these ICTs for other purposes, sometimes purposes far away from development but when they find it relevant especially when they see they can benefit from using an ICT; they can switch to these uses. Take for instance that most mobile phone users started using these mobile phones mainly in view of communication with only family and friends, but they later found it possible and rewarding to integrate other uses like coordinating economic, education and health related activities. Although these are very few, this shows that if a tele-education initiative for instance was to be run in the community, some members would be quick to pick it up since there are roots for such use in the community and also if

they saw it as beneficial. Most would be young people still in school but it would also be adopted by the much older who have children in school.

Another observation from the study was that people are more concerned about what they can benefit from the internet and mobile phones. It has been observed that they have been more drawn to the economic benefits especially through their mobile phones than the internet. We can thus see that there are roots for using the mobile phone in facilitating economic growth. While this is important, there is also a need to educate them about the social growth benefits that can accrue from the use of both the internet and mobile phones. From the findings, these uses are limited among study participants in the area but given the fact that there are some people who have benefited from the educational and health use of the internet and mobile phones, then the application of these two ICTs in such social aspects in the community is possible although much effort is needed to educate the vast majority of the local people on these issues. In hindsight, I can say that the mobile phone or development initiatives through the mobile phone especially those that are economic related can easily work in Kawempe but much effort needs to be directed towards enlightening the community on the social aspects that can accrue from both internet and mobile phone use.

Scholars like Rashid and Elder (2009: 1) actually argue that mobile phones are easy to use and this factor has thus facilitated their higher penetration and access even among the poor compared to other ICTs like the internet. To some extent, this is true as findings in Kawempe indicate that majority of the respondents preferred to use the mobile phone over the internet because they perceive mobile phones as much easier to use. However, this factor is relative and as we may perceive mobile phones to be easier to use ICTs, there are still some issues. In Kawempe, there are some people whose use of mobile phones is only limited to a few functions of the 'yes' and 'no' buttons on their phones even though they also perceive mobile phones as easy to use. These people cannot make meaningful uses of the detailed functions on their phones. For example, when some people were asked why they do not use health services on their phones, they simply said they could not send an SMS to make a health inquiry because they are illiterate. So before anyone, be it government or civic proprietors of ICT4D initiatives, concludes to completely perceive mobile phones as obviously easy to use for many people including the poor, there is a need to understand 'how easy' this ICT actually is to use

among the people and how it can actually affect the effective running of any mobile phone development run initiative.

Another issue arose still with some very few respondents being aware of the existence of a health SMS service through which individuals can send inquiries especially on sensitive health topics like sexual health issues from their mobile phones. However, majority of all the study participants including local leaders were not aware of this program. This is a challenge and it is therefore a recommendation to all ICT4D programs and their proprietors to create awareness of these programmes among the people in order to facilitate competent use of these initiatives among intended beneficiaries. Raising awareness and building the understanding of the potential of both ICTs is necessary but particularly important in this context where the majority of people have access to mobile phones. Having access to the mobile phone, does not guarantee that people will use whatever services a service provider or ICT4D initiator introduces but awareness can help to enhance the effective use of these services. If there are gaps, then interventions such as educating people on how to use these ICTs in order to benefit from them either socially or economically need to be taken.

In Kawempe, some of the study respondents were evidently aware of the benefits that can accrue from using the internet especially in facilitating economic growth. However, internet use is mostly limited by a lack of basic e-literacy skills among majority of the participants but the main challenge is illiteracy. In fact some people in the community and in both focus group discussions saw a need to learn how to use the internet and get training in internet use because they think that they are losing out on the digital opportunities that come with internet use. Therefore, for any internet initiative to work in Kawempe there is need for an extensive e-literacy training and possible adult education for majority of the illiterate adults. There is also a tendency for the much older respondents to think that internet use is particularly for the younger educated people and this was confirmed in both focus group discussions that the majority of the community members perceive the internet to be for the much younger educated people. Therefore basic training in the area to promote e-literacy should go beyond simply teaching people skills of how to use the internet but also aim at changing their perceptions that the internet can benefit all age groups.

Issues like poor network connections for both the internet and mobile phones were raised by most of the study participants. There is also a challenge of unstable electricity supply that interferes with both internet and mobile phone use in Kawempe. There is thus a need for telecommunication companies to upgrade their network connections while the government should work on slum electrification and also improving the stable supply of electricity because this interferes with the way people use both their internet and mobile phones.

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# Appendices

## Appendix 1: Interview guide for community members

Respondent	Questions						
	Village	Age	Sex	Occupation	Estimate Monthly Income (UG shs)	Estimate Daily Expenditure (UG shs)	Education Level
<b>Internet Section</b>				<b>Probing questions</b>			
What do you usually use to communicate?				Please mention your main means of communication, receiving and coordinating information.			
Do you have access to the internet?				<p>How?</p> <p>Do you own your own internet? (modem, Wi-Fi)</p> <p>Do you use an internet café?</p> <p>Do you access the internet at your place of work?</p> <p>Do you use a friend's or a relative's?</p> <p>Other means of access.....</p> <p>Would you say it is easy for you to access the internet?</p> <p>If not, why?</p>			
Do you use the internet whenever you want to?				<p>How often? Number of hours? Number of days?</p> <p>As often as you want to?</p> <p>Not at all, why?</p>			
What do you consider to be the most important uses for your internet?				<p>What do you use your internet for? In the past week, can you please mention at least five of the uses of the internet to you?</p> <p>Is it for communication?</p> <p>Is it for socializing?</p> <p>Symbolic factors</p>			

	<p>Is it for your business? Or do you use it in any way to earn incomes or coordinate income generating activities?</p> <p>Do you use it for obtaining health information?</p> <p>Do you use it for education purposes?</p> <p>Others?</p>
Besides the uses you make of the internet, why did you choose to start using the internet?	<p>Was it the best option for you? Why?</p> <p>Was it because of how it made you appear among your peers?</p> <p>Was it compatible with your needs, experiences and values?</p> <p>Was it because you thought that it was easy to use?</p> <p>Was it readily available for you to see and use?</p> <p>Did you think it was the best tool to achieve results?</p> <p>Was it because you could experiment it?</p> <p>Was it because you thought it was voluntary to use?</p> <p>Others....</p>
What are the most important aspects for your economic development?	What activities do you engage in to earn incomes?
If you use the internet for economic development, does the internet help you improve your income generation or your economic activities?	<p>How? Do you use it to coordinate your economic activities and income generating activities?</p> <p>Is it your source of income generation?</p> <p>What were you earning before?</p> <p>Has it improved or does it have prospects of improving now that you use the internet?</p> <p>Or is it not improving? Why?</p>
Are there any other factors that you consider to facilitate your economic development besides the internet?	<p>e.g. education? Infrastructure?</p> <p>Please mention others</p>
What are the most important aspects for your social development?	<p>Health? Education? Social capital?</p> <p>Please mention any others</p>
Socially, what do you think are the	Communicating with family and friends?



most important uses of the internet to you?	Communicating with colleagues? Please mention any others
If you use the internet for social development, do you think it has helped you to progress socially?	How? To be specific, do you use it to access Health information or coordinate your health services and does it help?  Do you also use it to coordinate education activities online or obtain education information and does it help?
Are there any factors that have facilitated the aspects of social development in your community?	e.g. Social infrastructures, availability of services please mention any other factors
What are the challenges that constrain you from using the internet or when using the internet?	
What do you think are the possible solutions or how do you usually overcome these challenges?	
<b>Mobile phone section</b>	
Do you have access to a mobile phone?	How?
Do you use the mobile telephone whenever you want to?	How often? Number of hours? Number of days? As often as you want to? Not at all, why?
Can you estimate how much you spend on using your mobile phone?	
What do you consider to be the most important uses of mobile phones to you?	
Besides the uses you make of the mobile phone, why did you choose to start using the internet?	Was it the best option for you? Why? Was it because of how it made you appear among your peers?

	<p>Was it compatible with your needs, experiences and values?</p> <p>Was it because you thought that it was easy to use?</p> <p>Was it readily available for you to see and use?</p> <p>Did you think it was the best tool to achieve results?</p> <p>Was it because you could experiment it?</p> <p>Was it because you thought its use was voluntary?</p> <p>Others....</p>
If you use mobile phones for economic development, do you think they have helped you improve your income generation or your economic activities?	<p>How? Do you use it to coordinate your economic activities and income generating activities?</p> <p>Is it your source of income generation?</p> <p>What were you earning before?</p> <p>Has it improved or does it have prospects of improving now that you use the internet?</p> <p>Or is it not improving? Why?</p>
Are there any other factors that you consider to facilitate your economic development besides mobile phones?	<p>E.g. education? Infrastructure?</p> <p>Please mention others</p>
If you use mobile phones for social development, do you think they have helped you to progress socially?	<p>Communicating with family and friends?</p> <p>Communicating with colleagues?</p> <p>Please mention any others</p>
Are there any factors that have facilitated the aspects of social development in your community besides mobile phones?	<p>e.g. Social infrastructures, availability of services</p> <p>please mention any other factors</p>
What are the challenges that constrain you from using the mobile phone or when using the mobile phone?	
What do you think are the possible solutions or how do you usually overcome these challenges?	

Compare your thoughts about using a mobile phone and using the internet.	
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## Appendix 2: Interview guide for local leaders

Question	Probe questions
What do you think is the level of internet access in your community?	Do you think people have access to the internet in your community?  How? Do most people own their own internet? Do they share with others like friends or relatives? Do they access the internet from their work places?
What do you think are the most important uses of the internet among people in your community?	Mention
What are the main economic activities in this community?	Mention any specific economic activities
Do you think that people use the internet to coordinate these economic activities?	
Do you think that the internet builds these economic activities in some way?	Do people use the internet to coordinate or run these economic activities in one way or another?
What are the main aspects of social development in this community	Mention
Do you think that the internet builds these social aspects in some way?	Do people use the internet to coordinate these social development aspects?  On a more specific note, do they use the internet for health services?  Do they use the internet for education?
What are the challenges associated with the use of the internet in your community?	
What are the possible solutions to these challenges or how do people in your community usually overcome these challenges?	
<b>Mobile phones section</b>	
What do you think are the levels of mobile	Do you think people have access to the

phone access in your community?	mobile phones in your community? How? Do most people own their own mobile phones? Do they share with others like friends or relatives?
What do you think are the most important uses of mobile phones among people in your community?	Mention
Do you think that mobile phones build the main economic activities in this community in some way?	
Do you also think that mobile phones build the social aspects in this community?	Do people use mobile phones to coordinate these social development aspects? On a more specific note, do they use mobile phones for health services? Do they use the internet for education?
What are the challenges associated with the use of mobile phones in your community?	
What are the possible solutions to these challenges?	

### Appendix 3: Focus Group Interview Guide

Question	Probe questions
What are your main means of communication?	
Do you have access to the internet in your community	Is it common for people to own their own internet? Do they access it at work? Do they share with someone? Do you have access to the internet whenever you want to use it?
What do you consider to be the most important uses of the internet among people in this community?	mention
What are the main economic activities in this community?	Mention
Do you use the internet for economic purposes	Specify. Do you use the internet for to conduct your business? Are you employed by the internet? Do you think the internet has contributed to the building of your economic activities? How? If not why?
What are the main aspects of social development in this community?	Mention
Do you use the internet for social purposes	List them. Do you use the internet to obtain any form of education, research? Do you use the internet to obtain health information or for any other health purposes? Do you see the internet as a reliable source to obtain and use such information?
What challenges do you face with the use of the internet in this community?	

What solutions can you suggest or how do you deal with these challenges?	
<b>Mobile phones section</b>	
Do you have access to mobile phones in your community?	<p>How?</p> <p>Do you own your own?</p> <p>Do you share with someone else like a friend, relative?</p> <p>Do you have access to mobile phones whenever you want to use them?</p>
What do you consider to be the most important uses for mobile phones among people in your community?	
Do you use mobile phones for economic purposes?	<p>Specify the economic activities? Do use mobile phones to coordinate or run economic activities?</p> <p>Have they improved? If not, why?</p>
Do you also use mobile phones to coordinate different aspects of social development?	<p>Specify</p> <p>Do you use mobile phones to obtain any form of education, research?</p> <p>Do you use mobile phones to obtain health information or for any other health purposes?</p>
What challenges do you face when using mobile phones in your community?	Mention
What solutions can you suggest or how do you usually overcome these challenges?	

**Appendix 4: Observation checklist**

1. What people are using the internet for in internet cafes
2. What people are using mobile phones for in telephone kiosks
3. Number of internet cafes and users in the community
4. Number of telephone kiosks and users in the community